

# Symantec™ Enterprise Security Architecture Installation Guide

SESA 2.1



# Symantec™ Enterprise Security Architecture Installation Guide

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Documentation version 2.1

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Copies of all licenses and required source code can be found in the \OPENSRC directory on SESA Manager for Windows (Installation Disk 1 of 2) of the distribution media.

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# Introducing Symantec Enterprise Security Architecture

This chapter includes the following topics:

- [About Symantec Enterprise Security Architecture](#)
- [What's new in this release](#)
- [Components of SESA](#)
- [How SESA works](#)
- [Where to get more information about SESA](#)

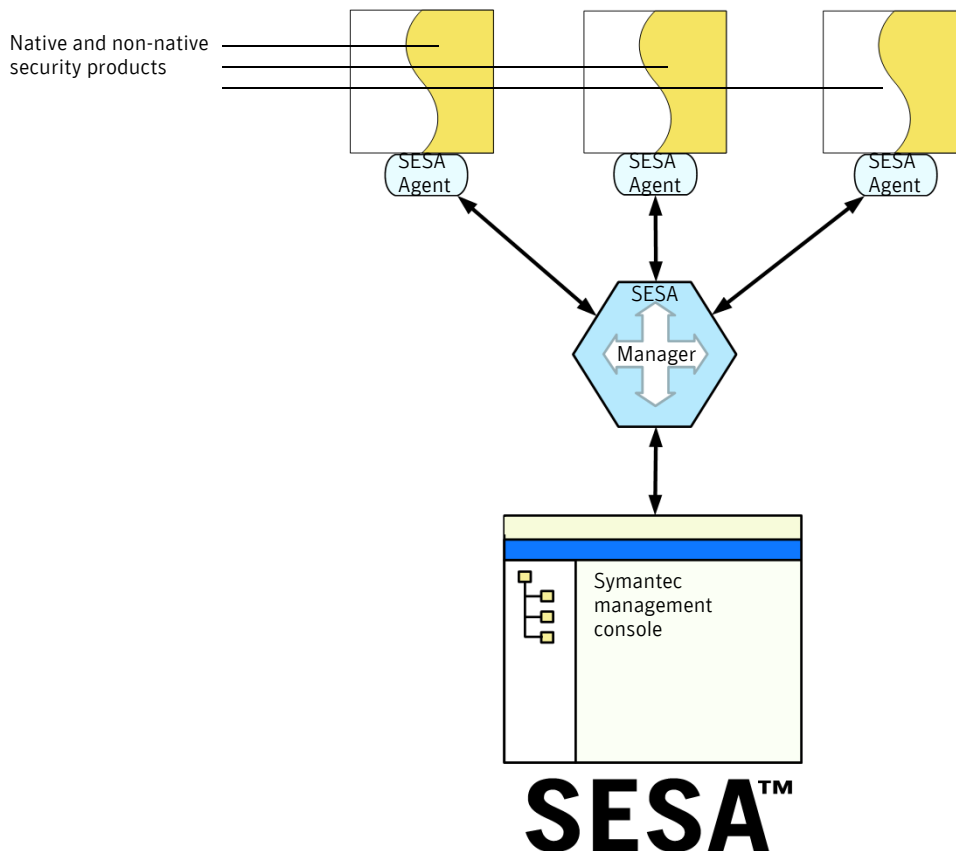
## About Symantec Enterprise Security Architecture

Symantec Enterprise Security Architecture (SESA) integrates multiple Symantec Enterprise Security products and third-party products to provide flexible control of security within organizations. SESA is designed to meet the requirements of both large-sized and medium-sized enterprises. It provides a common management framework for native and integrated SESA security products to protect your IT infrastructure from malicious code, intrusions, and blended threats, and help to identify the vulnerabilities that the threats exploit.

SESA helps you increase your organization's security posture by simplifying the task of monitoring and managing security-related events and products. You can monitor and manage security-related events through the Symantec management console.

Figure 1-1 shows the basic relationships among the foundation that is provided by SESA, the Symantec management console, and the security products that SESA helps manage.

**Figure 1-1** SESA foundation



The Symantec management console is the common user interface that provides manageable integration of security technologies (Symantec or otherwise), Symantec Security Services, and Symantec Security Response.



# What's new in this release

SESA includes new features, as well as improvements to existing features.

[Table 1-1](#) lists and describes what's new in this release.

**Table 1-1**            New features in SESA

Feature	Description
IBM DB2 Universal Database Workgroup Server Edition 8.1 for the SESA DataStore now available from Symantec	<p>IBM DB2 Universal Database Workgroup Server Edition 8.1 for the SESA DataStore can now be purchased from Symantec through the SESA Foundation Pack 2.1 with SESA DataStore (IBM DB2 for Windows).</p> <p><b>Note:</b> This database software is intended for use with SESA only, and not for use as a general purpose database. Its installation is restricted to a single server with a maximum of four processors, and it is intended for use by a limited number of users, all of whom must be DB2 system administrators.</p> <p>Symantec does not provide IBM upgrade insurance or other upgrade insurance as part of the SESA Foundation Pack 2.1 with SESA DataStore (IBM DB2 for Windows). To obtain upgrade insurance for any IBM DB2 databases that you use with SESA, you must contact IBM directly.</p> <p>For customers who do not need to purchase a database, Symantec offers the SESA Foundation Pack 2.1 with No Database.</p>
Support for FixPak 6a for IBM DB2 Universal Database 8.1	<p>SESA now supports IBM DB2 Universal Database 8.1 (Workgroup Server Edition or Enterprise Server Edition) with FixPak 6a for both the SESA DataStore and SESA Directory databases.</p> <p><b>Note:</b> FixPak 7a has a known problem when it is applied to the instance of DB2 8.1 used by IBM Tivoli Directory Server 5.2. As a result, FixPak 7a should only be applied to DB2 8.1 if IBM Tivoli Directory Server 5.2 is not installed on the same machine.</p>
IBM Tivoli Directory Server 5.2 bundled with SESA	IBM Tivoli Directory Server 5.2 is now bundled with the SESA Foundation Pack 2.1 for use as the SESA Directory.
IBM Tivoli Directory Server 5.2 support on Solaris 8	IBM Tivoli Directory Server 5.2 is now supported as the SESA Directory on Solaris 8.

**Table 1-1** New features in SESA

Feature	Description
Updated version support for IBM DB2 Universal Database Personal Edition	<p>During an Express installation on a Windows computer, SESA now installs version 8.1 of IBM DB2 Universal Database Personal Edition.</p> <p><b>Note:</b> The Personal Edition is suitable only for SESA installations that are used in small or non-production environments, such as demonstration or evaluation installations.</p>
Enhanced Windows 2003 platform support	You can now install the SESA Manager component on computers running Windows 2003. In SESA 2.1, the SESA Manager, SESA DataStore, and SESA Directory are all supported on Windows 2003.
Ability to update existing custom reports	You can now open an existing custom report, edit it, and save your changes.
New and updated IBM DB2 maintenance scripts	Updated scripts are provided to help you maintain IBM DB2 database performance, including a script you can use to reorganize SESA DataStore tables in the background, without having to take the database offline.
Faster Web server performance	The XML parser has been updated to enhance SESA Manager performance.
DNS entries for default, anonymous SSL certificates	Gives you the option to use either a DNS host name or an IP address for default, anonymous SSL certificates on the SESA Manager and SESA Directory computers.
DataStore installation enhancements	When installing the SESA Datastore, the SESA installation wizard now prompts you for configuration information that is used to tune the database for optimal performance.
Updated version support for IBM Apache HTTP Server	SESA now supports version 1.3.28 of IBM Apache HTTP Server.
Updated version support for Java LiveUpdate	SESA now supports version 2.1 of Symantec Java LiveUpdate.
Mozilla browser support on Solaris and Linux	Lets you use the Mozilla 1.7.2 browser to access the Symantec management console on Solaris computers.
Enhanced SESA Directory replication	SESA now supports the creation of replica directories using IBM Tivoli Directory Server 5.2.

# Components of SESA

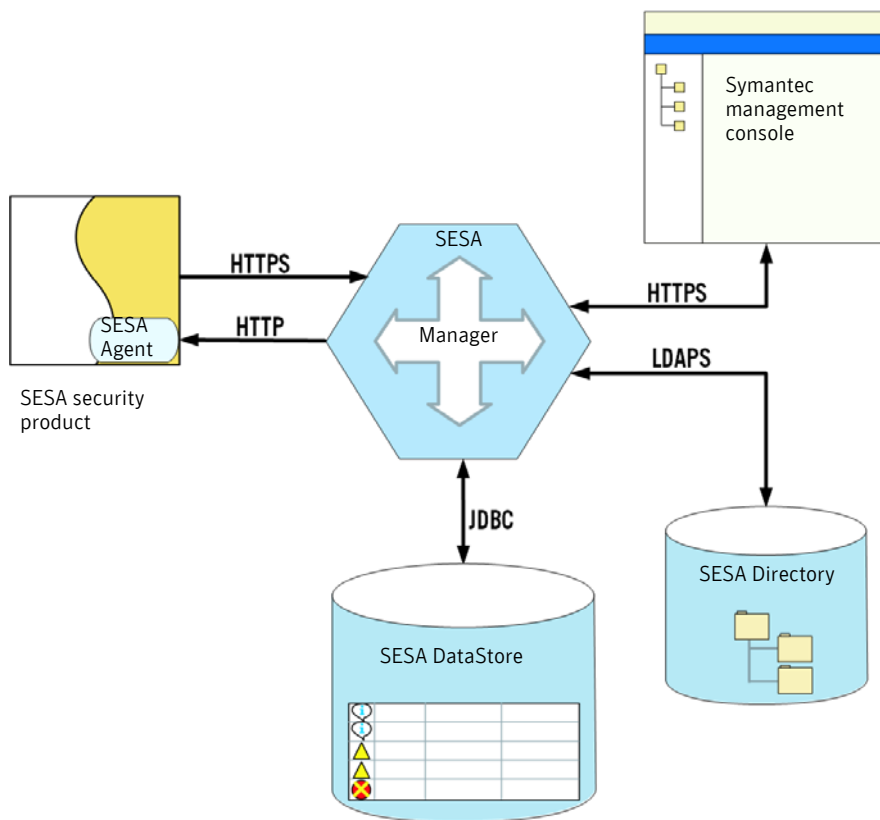
The following components are the core of Symantec Enterprise Security Architecture:

- [SESA Directory](#)
- [SESA DataStore](#)
- [SESA Manager](#)
- [SESA Agent](#) (on the SESA Directory, SESA DataStore, SESA Manager, and on the security product)
- [Symantec management console](#)

SESA relies on security product SESA Agents, a SESA Directory, a SESA DataStore, and a SESA Manager to collect, store, process, and report security events to the Symantec management console, and to distribute configuration changes to SESA and SESA security products. In some cases, security products may also use a Symantec Event Collector to collect security events to forward to SESA.

Figure 1-2 shows the relationships among the major SESA components. No Symantec Event Collectors are shown.

**Figure 1-2** Relationships among SESA components



## SESA Directory

The SESA Directory uses the Lightweight Directory Access Protocol (LDAP) to store the configuration data that is required to manage native and integrated SESA security products and SESA services on the network.

The configuration data includes the following:

- Organizational units, which identify all of the SESA-managed computers and components on the network and their locations in an organizational hierarchy.
- Configuration groups, which have managed computers as members.

- Data for each native and integrated SESA security product or SESA service that is installed on each SESA-managed computer (client or server).
- All authorized Symantec management console users on the network.
- The administrative roles to which Symantec management console users are assigned. Roles group users to assign Symantec management console access-control permissions.
- Configuration data that describes the settings for the software features of the SESA security product or products.
- Information that describes SESA itself.

You can view, add, and modify information through the Symantec management console, which then stores the data in the SESA Directory. You can define a number of configurations for each SESA-integrated product. Each product differs as to the type of configuration options that are offered. You can organize managed computers and users into different types of groups to help you delegate administrative tasks, and to better reflect the existing infrastructure of your organization's network. As new SESA security products are installed, SESA automatically adds the products and the computers on which they are installed to the SESA Directory.

## SESA Directory replicas

Using the same Symantec Installation Wizard that installs SESA Directories, you can also install one replica SESA Directory to add failover support. In this way, when a network connection fails on a SESA Directory computer, the associated SESA Manager can automatically switch communication to the replica SESA Directory.

Replica SESA Directories are read-only. While a replica SESA Directory is in use, you cannot make configuration changes to SESA components and management objects.

For more information on setting up SESA Manager-to-Directory failover support, see the *Symantec Enterprise Security Architecture Administrator's Guide*.

## SESA DataStore

The SESA DataStore is a relational database that stores all event data that is generated by SESA and SESA products. In addition, the SESA DataStore stores alerts that are generated by alert configurations. SESA events and product events are predefined. You can create alert configurations or notifications based on one or more events, and set alerting thresholds.

Depending on the rate that security events are logged to the SESA DataStore, more than one SESA DataStore may be necessary for a SESA installation. During SESA installation, you can span a single SESA DataStore across multiple drives or move it to another drive, as available space requires. You can also use third-party software to resize and move SESA DataStores after the SESA installation, if necessary.

## SESA Manager

The SESA Manager centrally manages event processing for the SESA Agents, SESA DataStore, SESA Directory, and Symantec management console.

The SESA Manager contains a Web server and a servlet engine. Each aspect of the SESA Manager's functionality is implemented as a Java servlet. All SESA data passes through the Web server and the servlet engine.

Depending on resource demands and physical constraints such as locations, you can set up the SESA Manager in the following different configurations:

- SESA Manager, SESA DataStore, and SESA Directory all on a single computer (not supported on Solaris platforms)
- SESA Manager on one computer, SESA DataStore and SESA Directory on remote computers (distributed)
- One or more SESA Managers that log event data to their own SESA DataStores as well as forward events and alerts to other SESA Managers (event and alert forwarding) but share a single SESA Directory
- Multiple SESA Managers that point to one SESA Directory and SESA DataStore
- SESA DataStores at multiple sites that replicate to a single master SESA DataStore (replication)

See [“Supported installation configurations”](#) on page 212.

You can decide which configuration is most appropriate for your networking environment during installation planning.

## SESA Agent

SESA Agents are Java applications that perform communication functions for the SESA components or security products on which they are installed.

Depending on where the SESA Agent is running, it handles the following types of communication tasks:

SESA Agent installed on a security product

When a SESA Agent is installed on a security product, it handles the communication between the product and the SESA Manager. The SESA Agent passes event data from the security product to the SESA Manager and receives product configuration data. One SESA Agent can support multiple security products that are installed on the same computer. (For a SESA Agent to support a product, the product must have been integrated with SESA.)

SESA Agents are installed and uninstalled with the security product. If the SESA Agent is not available with the security product, it is typically installed and uninstalled with a Symantec Event Manager, Symantec Event Collector, or some other type of SESA integration method.

For more information on SESA Integration Packages, Symantec Event Managers, and Symantec Event Collectors, see the *Symantec Enterprise Security Architecture Administrator's Guide*.

SESA Agent installed on the SESA Manager (and if necessary, the SESA Directory and SESA DataStore)

A SESA Agent is installed on the SESA Manager, which has a heartbeat provider that monitors the online and offline status of SESA services that are running on the SESA Agent. When security products integrate with SESA, they register certain critical services with the SESA Agent. You can further define critical services in the Symantec management console.

The SESA Agent is installed and uninstalled with the SESA Manager. If the SESA Directory or the SESA DataStore is installed on different computers than the SESA Manager, you must use the SESA Installation Wizard to install an additional SESA Agent on each remote SESA Directory or SESA DataStore computer.

The purpose of the SESA Agent on a remote SESA Directory or SESA DataStore is to obtain heartbeat status from these SESA components.

See [“SESA Agent heartbeat service”](#) on page 24.

## SESA Agent heartbeat service

The SESA Agent comes with a heartbeat service that provides the SESA Manager with near real-time status of critical services. These critical services register with the SESA Agent. Administrators can view heartbeat status quickly and easily from the Symantec management console, and can also configure alerts that are based on heartbeat failure events.

Any time that a defined critical service misses a heartbeat (that is, becomes unavailable), SESA generates an event, which you can use for creating an alert, which can generate the proper alert or notification, such as an email or page.

You can view heartbeat status in the Symantec management console. An icon next to a computer denotes whether the critical services that are running on that computer are operational, have failed, or are not applicable. Without making queries, you can use the Systems view tab as a quick and comprehensive way to identify computers on which a service is unavailable. You can also query properties to see a more detailed status.

For more information, see the Symantec Management Console User's Guide.

You can view the length of time that a service has been running or the length of time that a service has been unavailable. The view also displays the normal check-in interval of the computer in question.

## Event data handling

To pass event data, the SESA Agent sends events as follows:

- Batch events are normal priority events that accumulate on the SESA Agent before the SESA Agent sends them. The SESA Agent sends them according to settings that you configure in the Symantec management console. Batch events provide efficient communication because each time that the SESA Agent connects to the SESA Manager, it must open a connection and authenticate itself to the SESA Manager.
- Direct events have alert configurations associated with them and are sent immediately to the SESA Manager, which bypasses the SESA Agent event queue.



## Symantec management console

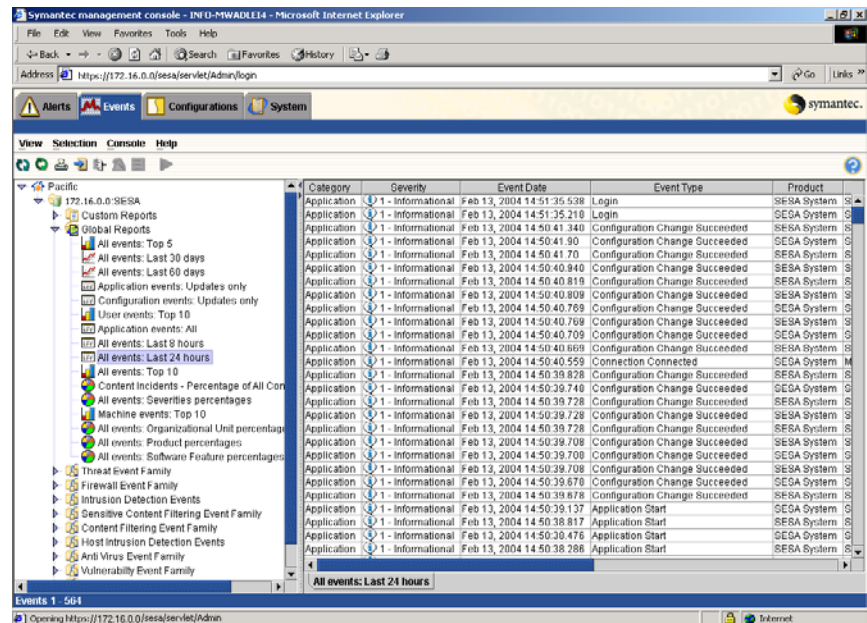
The Symantec management console provides a simple, lightweight, Java-based, user-interface framework. The Symantec management console runs in a Web browser via a secure connection and retrieves events and configurations through the SESA Manager.

The Symantec management console provides you with flexible features such as detachable windows, preferences, stored views, and tabular and graphical views. It also offers extensive filtering capabilities, which let you filter any field in the data, including date, time, event, event family, SESA security product, and more.

The Symantec management console is data-driven. As SESA security products integrate into SESA, they extend the Symantec management console's functionality by inserting new event classes, views, tabs, and other product-specific data into it.

Figure 1-3 shows the Symantec management console with the All Events view displayed.

Figure 1-3 Events view displayed in the Symantec management console



## How SESA works

Symantec Enterprise Security Architecture (SESA) is an enterprise-scalable framework on which Symantec builds its Internet security solutions. Together with native and non-native security products, SESA lets you centrally manage responses to attacks, threats, and exposures by correlating security information from Symantec and non-Symantec antivirus products, firewalls, intrusion detectors, incident management software, and vulnerability scanning tools.

At its most basic level, SESA is composed of a SESA Agent that runs on nodes on which native and non-native security products are installed. The SESA Agent communicates with the security products, providing them with configuration information and collecting events and logs from the products.

One or more SESA Agents pass the data that is generated from the products through a secure communication channel to a management server (the SESA Manager). The data that is provided by the SESA Agents is processed by a middle layer that consists of servlets that run on the SESA Manager. Data that is sent by the SESA Agents and processed by the SESA Manager is posted to the SESA DataStore, and configuration changes are written to the SESA Directory.

The Symantec management console process runs in a Web browser, but it accesses data through the SESA Manager. This process lets you configure alerts and notifications, review logs, generate reports, manage groups of objects within SESA, and control access for various user roles for security products that are integrated into SESA.

To help you manage your security data, SESA performs specific operations, including the following:

- Logging an event  
See [“How SESA logs events”](#) on page 27.
- Generating an alert  
See [“How SESA generates alerts”](#) on page 28.
- Distributing a security product configuration  
See [“How SESA distributes product configurations”](#) on page 30.
- Forwarding an event or alert  
See [“How SESA forwards events”](#) on page 32.

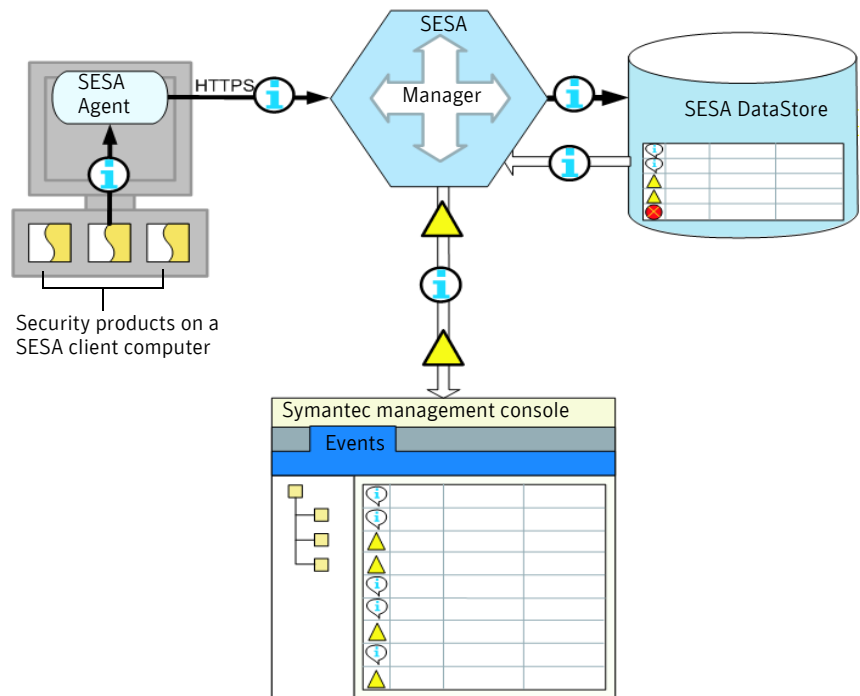
Each operation uses the SESA Manager to process the security data, but data is handled differently depending on the process.

## How SESA logs events

SESA logs events in the SESA DataStore. You can view and manipulate them through the Symantec management console.

Figure 1-4 shows the event logging process in SESA.

**Figure 1-4** How SESA logs an event



One or more security products that are running on a client send events, which the SESA Agent collects. The SESA Agent queues the events to more efficiently manage the transfer of data to the SESA Manager. You can configure the SESA Agent queue settings, including queue size and flushing interval, through the Symantec management console.

For more information on setting the SESA Agent queue size, see the *Symantec Enterprise Security Architecture Administrator's Guide*.

The SESA Agent communicates with the SESA Manager over a secure HTTPS channel. It queues events for the SESA Manager to handle. If an alert configuration is associated with an event, the SESA Agent and SESA Manager handle it differently.

See [“How SESA generates alerts”](#) on page 28.

The SESA Manager processes the events and inserts them into the SESA DataStore. You can view the events in the Symantec management console. The SESA Manager handles the query requests and displays the events in the Symantec management console.

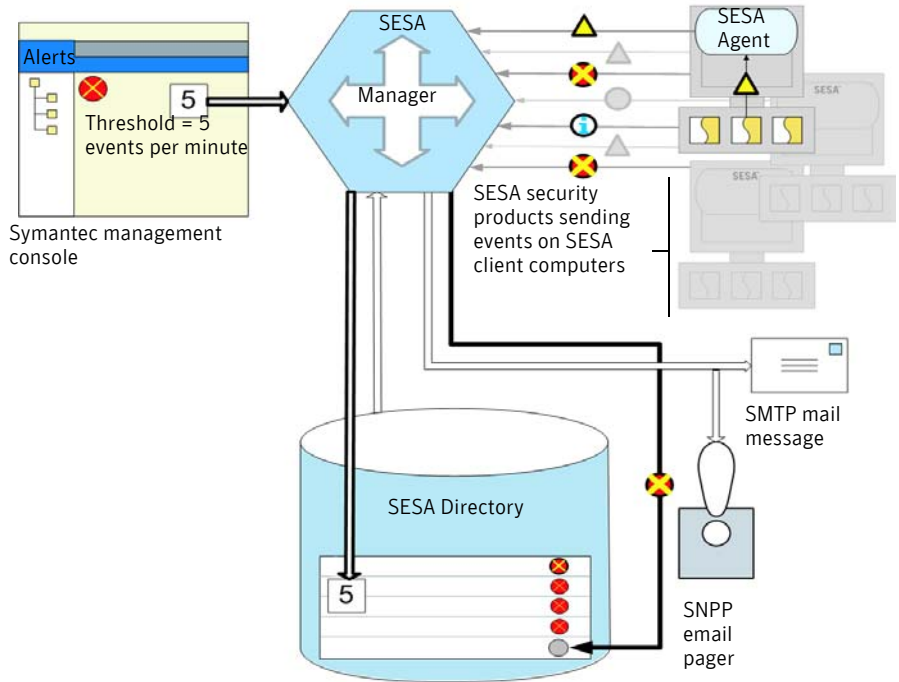
You can reduce the number of security-related events that you see by querying, filtering, and sorting events to display only the desired information in the Symantec management console. You can then generate and print reports of event status, which are based on filtered views that you create.

## How SESA generates alerts

When you configure an alert, the SESA Manager stores the alert configuration in the SESA Directory. You can configure alerts to be generated with specific thresholds and time intervals or for every occurrence of a matching event. You can also configure a notification for each alert.

Figure 1-5 shows how SESA generates an alert notification when enough alerts are generated to exceed a configured threshold.

**Figure 1-5** How SESA generates an alert notification



In the Symantec management console, you can configure an alert in which you define the type and number of events to track over a specified interval. For example, you can create an alert to trigger when SESA logs five critical events over a one-minute period. The SESA Manager processes the alert and inserts it into the SESA DataStore.

On clients, SESA Agents collect events. SESA identifies events that have alerts associated with them as direct events. SESA Agents send direct events over a secure HTTPS channel to the SESA Manager by queuing them for immediate processing. When there is no connectivity between the SESA Manager and SESA Agents, SESA Agents queue both direct and batched events until the connection is restored and the SESA Manager can process them or the queue becomes full.

The SESA Manager immediately processes direct events using its Event Logger servlet to insert the events into the SESA DataStore. When the particular type of event that was configured in the alerts is logged to the SESA DataStore the specified number of times within the specified interval, the alert threshold is exceeded and the alert is triggered.

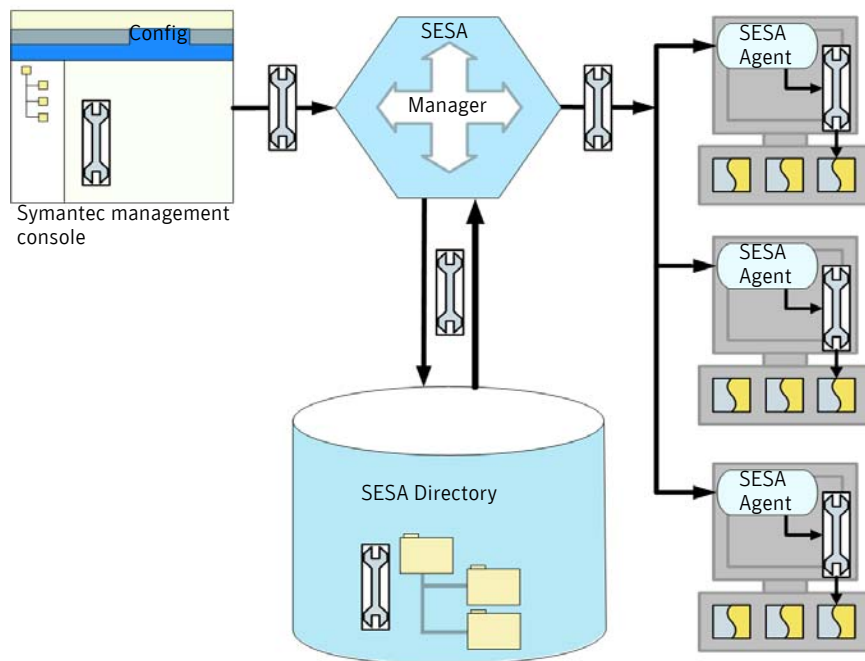
In [Figure 1-5](#), the alert configuration has a threshold of five critical events in one minute. The SESA Manager triggers the alert only after it logs the fifth critical event that has been sent in under one minute. You can associate one or more alert notifications with an alert. Depending on how notification delivery is configured for the user who is specified in the alert, the service can be an SNPP email pager or SMTP mail message. Additionally, you can use an SNMP trap or OS Event Log for alert notifications.

## How SESA distributes product configurations

When you configure a security product, the SESA Manager processes the configuration, stores it in the SESA Directory, and distributes it to the appropriate security products on the network.

Figure 1-6 shows the distribution of product configurations in SESA.

**Figure 1-6** How SESA distributes product configurations



In the Symantec management console, you can change a configuration for a security product that integrates with SESA. The SESA Manager processes the configuration request and stores it in the SESA Directory.

When you select the Distribution option in the Symantec management console, the SESA Agents that were installed with the security products pull the configuration from the SESA Manager. The SESA Agent processes the configuration data to modify the necessary product settings.

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**Note:** All SESA Agents poll for configuration changes every eight hours. However, when an administrator makes a configuration change and distributes it, SESA informs the SESA Agent that a new configuration is available. The SESA Agent then immediately downloads the configuration change rather than waiting up to eight hours.

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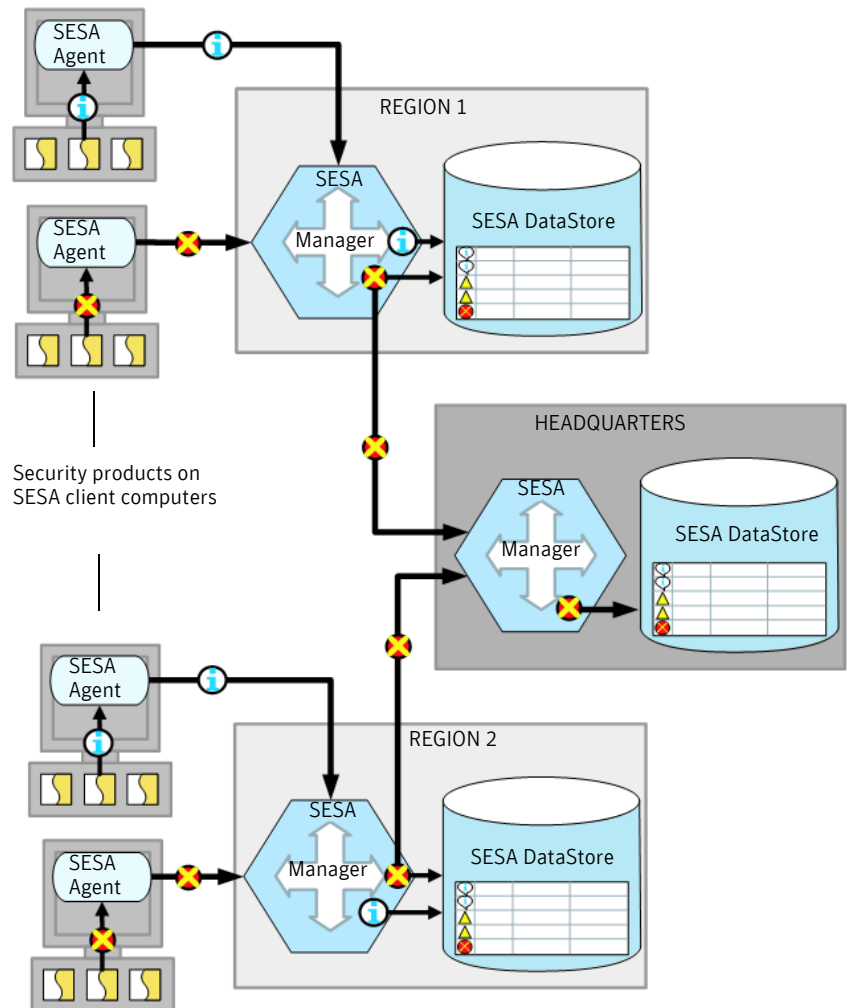
## How SESA forwards events

You may want to use event forwarding to roll up particular events to certain locations so that the necessary information is supplied where it is needed. When you set up an installation for event forwarding, one or more SESA Managers log events to their own local SESA DataStores. However, you can configure a SESA Manager to forward a subset of events to another SESA Manager to insert into its SESA DataStore.



Figure 1-7 shows event forwarding in SESA.

**Figure 1-7** How SESA forwards events



In Figure 1-7, an organization has installed two SESA Managers and SESA DataStores at its regional offices, and one SESA Manager and SESA DataStore at the corporate headquarters. Administrators at the organization want to log all events to the regional SESA DataStores, but forward only virus events to the SESA DataStore at corporate IT headquarters.

Clients at the regional site generate events, which the SESA Agents pass to their respective regional SESA Managers. The regional SESA Managers process the events, which logs them to their own regional SESA DataStores. Because the regional SESA Managers have been configured to forward virus events from the regional SESA DataStores, they also forward, over a secure HTTPS channel, a copy of the virus events to the SESA Manager at corporate headquarters. The corporate SESA Manager then processes the virus event data and inserts it into the corporate SESA DataStore. Virus event data from the regional client computers is logged to both the regional SESA DataStores and the corporate headquarters SESA DataStore.

## Where to get more information about SESA

For more information on SESA, a SESA knowledge base is available on the Symantec Technical Support Web site at:

[www.symantec.com/techsupp/enterprise](http://www.symantec.com/techsupp/enterprise)

The knowledge base link is under Technical Support. You can find the Symantec Enterprise Security Architecture knowledge base listed under Security Management.

To obtain an updated version of the *Symantec Enterprise Security Architecture Installation Guide* and other SESA guides, visit the Symantec public FTP site at any of the following URLs:

- [ftp://ftp.symantec.com/public/english\\_us\\_canada/doc](ftp://ftp.symantec.com/public/english_us_canada/doc)
- [ftp://ftp.symantec.com/public/english\\_us\\_canada/products/sesa/manuals](ftp://ftp.symantec.com/public/english_us_canada/products/sesa/manuals)

You can also obtain updated versions of SESA guides from the Symantec Technical Support Web site for SESA documentation:

[http://www.symantec.com/techsupp/enterprise/products/sesa/sesa\\_2/manuals.html](http://www.symantec.com/techsupp/enterprise/products/sesa/sesa_2/manuals.html)

## SESA Directory third-party software information

Table 1-2 lists the SESA Directory middleware components and how to access online documentation for them.

**Table 1-2** How to access SESA Directory third-party online documentation

Third-party product	How to access online documentation
IBM Tivoli Directory Server	<p><b>To access IBM Directory Server online documentation</b></p> <ul style="list-style-type: none"> <li>◆ Navigate to the following directory on the server: C:\Program Files\IBM\LDAP\doc\&lt;language&gt;\&lt;filename&gt;</li> <li>◆ where &lt;language&gt; is a directory containing documentation in a particular language and &lt;filename&gt; is the name of a document.</li> </ul>
IBM Tivoli Web Administration Tool	<p><b>To access IBM Web Administration online documentation</b></p> <ol style="list-style-type: none"> <li>1 Launch the IBM Tivoli Web Administration Tool console. For more information, see the <i>Symantec Enterprise Security Architecture Administration Guide</i>.</li> <li>2 In the IBM Web Administration Tool, in the upper-right corner of the right pane, click the question mark icon.</li> </ol>
IBM HTTP Server	<p><b>To access IBM HTTP Server online documentation</b></p> <ul style="list-style-type: none"> <li>◆ On the Windows taskbar, click <b>Start &gt; Programs &gt; IBM HTTP Server 1.3.28.1 &gt; Documentation</b>.</li> </ul>
IBM Key Management Utility (IKEYMAN)	<p><b>To access IBM IKEYMAN online documentation</b></p> <ol style="list-style-type: none"> <li>1 On the Windows taskbar, click <b>Start &gt; Programs &gt; IBM HTTP Server 1.3.28.1 &gt; Documentation</b>.</li> <li>2 In the left pane of the IBM Documentation window, click <b>IBM HTTP Server</b>, then click <b>How to</b>, and then click <b>Use IKEYMAN</b>.</li> </ol>

## SESA DataStore third-party software information

Table 1-3 lists the SESA DataStore middleware components and how to access documentation for them.

**Table 1-3** How to access SESA DataStore third-party online documentation

Third-party product	How to access online documentation
IBM DB2 databases	<p>To access IBM DB2 online documentation</p> <ul style="list-style-type: none"><li>◆ On the Windows taskbar, click <b>Start &gt; Programs &gt; IBM DB2 &gt; Information &gt; Information Center</b>.</li></ul>
IBM DB2 Control Center	<p>To access IBM DB2 Control Center online documentation</p> <ol style="list-style-type: none"><li>1 On the Windows taskbar, click <b>Start &gt; Programs &gt; IBM DB2 &gt; General Administration Tools &gt; Control Center</b>.</li><li>2 In the Control Center, on the Help menu, click <b>Help Index, General Help, or Information Center</b>.</li></ol>
IBM DB2 Command Center	<p>To access IBM DB2 Command Center online documentation</p> <ol style="list-style-type: none"><li>1 On the Windows taskbar, click <b>Start &gt; Programs &gt; IBM DB2 &gt; Command Line Tools &gt; Command Center</b>.</li><li>2 In the Command Center, on the Help menu, click <b>Help Index, General Help, or Information Center</b>.</li></ol>

**Table 1-3** How to access SESA DataStore third-party online documentation

Third-party product	How to access online documentation
Oracle database	<p><b>To access Oracle database server online Help</b></p> <ul style="list-style-type: none"> <li>◆ In Oracle Enterprise Manager, access the online Help menu.</li> </ul> <p><b>To access online documentation for Oracle 9i databases</b></p> <ul style="list-style-type: none"> <li>◆ In a Web browser, go to the following URL:  <a href="http://otn.oracle.com/pls/db92/db92.homepage">http://otn.oracle.com/pls/db92/db92.homepage</a></li> </ul> <p>Free registration is required to view documentation.</p> <p><b>To access all Oracle documentation</b></p> <ul style="list-style-type: none"> <li>◆ In a Web browser, go to the following URL:  <a href="http://otn.oracle.com/">http://otn.oracle.com/</a></li> </ul> <p>You may find the following reference materials especially useful:</p> <ul style="list-style-type: none"> <li>■ Database Concepts</li> <li>■ Installation Guide for UNIX Systems</li> <li>■ Database Administrator's Guide</li> <li>■ Backup and Recovery Concepts</li> <li>■ Recovery Manager User's Guide</li> <li>■ Advanced Security Administrator's Guide</li> <li>■ Performance Tuning Guide and Reference</li> </ul>
Oracle database for users with Oracle support licenses	<p><b>To access licensed Oracle customer support</b></p> <ul style="list-style-type: none"> <li>◆ In a Web browser, go to the following URL:  <a href="http://metalink.oracle.com/">http://metalink.oracle.com/</a></li> </ul>

## SESA Manager third-party software information

Table 1-4 lists the SESA Manager middleware components and how to access online documentation for them.

**Table 1-4** How to access SESA Manager third-party online documentation

Third-party product	How to access online documentation
IBM DB2	<p>To access IBM DB2 online documentation</p> <ul style="list-style-type: none"><li>◆ On the Windows taskbar, click <b>Start &gt; Programs &gt; IBM DB2 &gt; Information &gt; Information Center</b>.</li></ul>
IBM DB2 Control Center	<p>To access IBM DB2 Control Center online documentation</p> <ol style="list-style-type: none"><li>1 On the Windows taskbar, click <b>Start &gt; Programs &gt; IBM DB2 &gt; General Administration Tools &gt; Control Center</b>.</li><li>2 In the Control Center, on the Help menu, click <b>Help Index, General Help, or Information Center</b>.</li></ol>
IBM DB2 Command Center	<p>To access IBM DB2 Command Center online documentation</p> <ol style="list-style-type: none"><li>1 On the Windows taskbar, click <b>Start &gt; Programs &gt; IBM DB2 &gt; Command Line Tools &gt; Command Center</b>.</li><li>2 In the Command Center, on the Help menu, click <b>Help Index, General Help, or Information Center</b>.</li></ol>
IBM HTTP Server	<p>To access IBM HTTP Server online documentation</p> <ul style="list-style-type: none"><li>◆ On the Windows taskbar, click <b>Start &gt; Programs &gt; IBM HTTP Server 1.3.28.1 &gt; Documentation</b>.</li></ul>
IBM Key Management Utility (IKEYMAN)	<p>To access IBM IKEYMAN online documentation</p> <ol style="list-style-type: none"><li>1 On the Windows taskbar, click <b>Start &gt; Programs &gt; IBM HTTP Server 1.3.28.1 &gt; Documentation</b>.</li><li>2 In the left pane of the IBM Documentation window, click <b>IBM HTTP Server</b>, then click <b>How to</b>, and then click <b>Use IKEYMAN</b>.</li></ol>

# Planning for deployment

This chapter includes the following topics:

- [SESA data paths](#)
- [Data security and protocol](#)
- [Deployment guidelines](#)

## SESA data paths

A SESA installation includes at least one security product, one or more SESA Agents, one or more SESA Managers, one or more SESA DataStores, and a single SESA Directory. Data is passed from one component to another along specific data paths that allow for communication among components.

Providing for the efficient and secure flow of data along each of these data paths is critical to an efficient SESA installation. SESA is designed to account for temporary disruption or overflow on its data communication paths.

For the purposes of deployment, you can consider communications among components in terms of the following:

- Volume of expected data on each data path
- Protocols that are used on each data path
- Supported data flow on each data path
- Security needs of your organization

The majority of data that is generated, processed, and collected within the SESA framework is event data. All event data includes base information such as Event Type, Date, Time, and Machine Name along with the data that is specific to the event.

SESA also passes configuration data along data paths. Configurations allow you to distribute product settings to predefined groups of computers.

SESA components transmit this data to each other, either over the network, between computers, or internally, on the same computer. Regardless of the physical locations of SESA components, data flows in a prescribed hierarchy along prescribed data paths. Not all components, however, communicate with all of the others.

Depending on the operating system platform, SESA provides flexibility for a number of SESA component installation strategies. However, when you consider network data transmission, SESA component installations fall into the following types:

- **Centralized installation:** The SESA DataStore, SESA Manager, and SESA Directory are all physically located on the same computer. A centralized installation is possible only when all of the SESA components are installed on a Windows operating system. No network data transmission occurs.
- **Distributed installation:** One or more SESA components are remotely located from another SESA component or components, which results in a SESA installation across multiple computers. A distributed installation is possible in all-Windows, all-Solaris, or mixed-platform environments. Network data transmission occurs between the SESA components that are remotely located. In a fully distributed installation, in which each SESA component is installed on a different computer, network communication occurs for all components.

In both centralized and distributed installations, communication between a security product and its SESA Agent is never over the network, because the SESA Agent and security product always reside on the same computer.



## SESA security products and SESA Agents

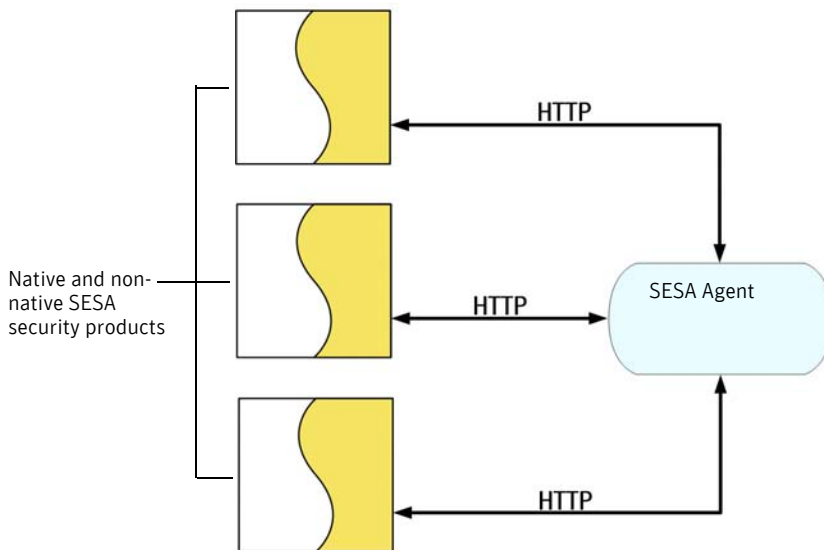
The SESA Agent facilitates all SESA communications with an integrated (non-native) or native SESA security product. The security product sends event data and requests to the SESA Agent for forwarding to the SESA Manager. Likewise, the SESA Agent pulls configuration and status data from the SESA Manager, and communicates this data to the security product.

### Security product to SESA Agent data path and flow

Individual SESA security products integrate within the SESA framework by means of communication with the SESA Agent. A single SESA Agent can support multiple products.

[Figure 2-1](#) shows the security product to SESA Agent data channel on a single computer that is running three integrated SESA security products.

**Figure 2-1** Security product to SESA Agent data channel



Because the SESA Agent always resides on the same physical computer as the product or products that it is servicing, there are no data security or network performance issues for this data path. SESA can manage any event data overflow that may occur, for example, during a network attack.

## Network data paths

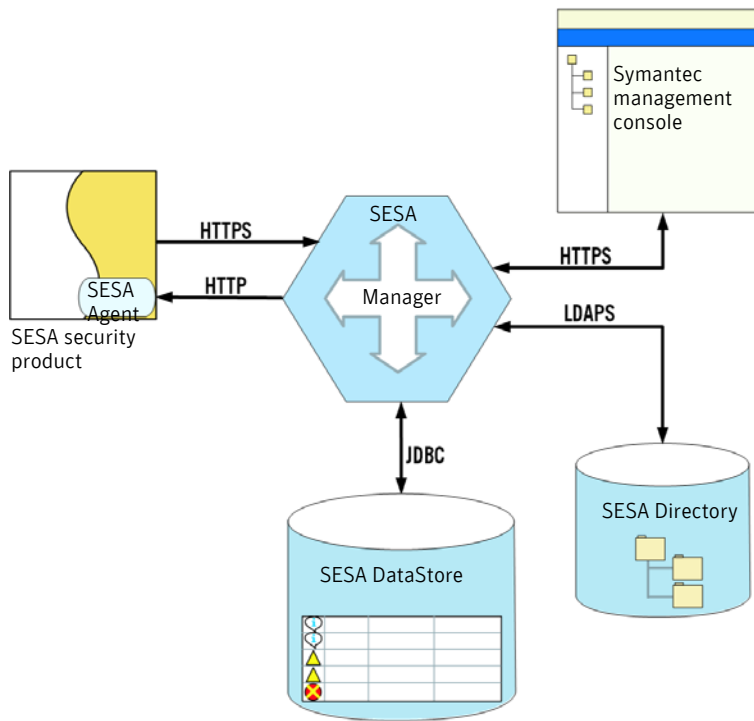
Depending on how you group SESA components, a SESA installation can have as many as four network data channels for communications, as follows:

- SESA Agent to SESA Manager data path (SSL)
- SESA Manager to SESA Agent data path (not SSL)
- Symantec management console to SESA Manager data path
- SESA Manager to SESA DataStore data path
- SESA Manager to SESA Directory data path

The SESA DataStore, SESA Directory, and SESA Manager can reside on one, two, or three computers, which results in up to two additional data channels.

Figure 2-2 shows the maximum number of data channels that a SESA installation might require.

**Figure 2-2** Data channels for major SESA components

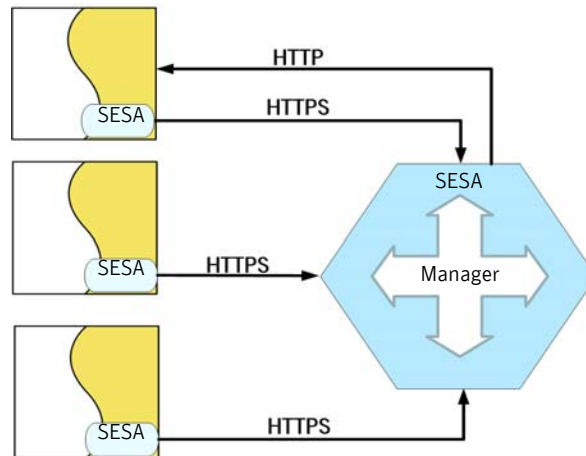


## SESA Agent to SESA Manager data path and flow

The SESA Agent communicates with the SESA Manager by XML-encoded CIM (Common Information Model) data over HTTPS. HTTPS communication occurs on port 443 by default. The SESA Agent is a CIMOM (Common Information Model Object Manager) and uses the default CIMOM port of 5998. SESA can manage event data overflow that may occur, for example, during a network attack.

Figure 2-3 shows the SESA Agent to SESA Manager data channel.

**Figure 2-3** SESA Agent to SESA Manager data channel

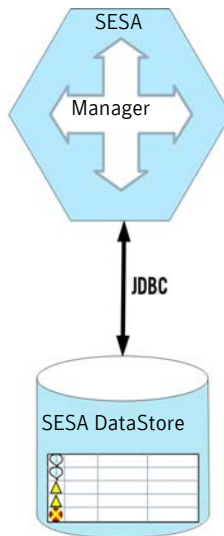


## SESA Manager to SESA DataStore data path and flow

The SESA Manager communicates with the SESA DataStore using JDBC and an IBM DB2 or Oracle driver. By default, the SESA Manager communicates with an IBM DB2 database server on port 50000 and an Oracle database server on port 1521. The SESA DataStore can receive events from multiple SESA Managers.

[Figure 2-4](#) shows the SESA DataStore to SESA Manager data channel.

**Figure 2-4** SESA DataStore to SESA Manager data channel

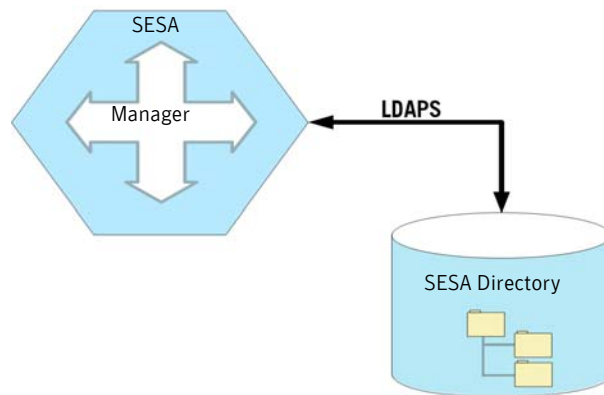


## SESA Manager to SESA Directory data path and flow

The SESA Directory and SESA Manager communicate over Secure Lightweight Directory Access Protocol (LDAPS). By default, LDAPS uses port 636 for SSL communications. The SESA Manager always initiates communication with the SESA Directory.

[Figure 2-5](#) shows the SESA Directory to SESA Manager data channel.

**Figure 2-5** SESA Directory to SESA Manager data channel

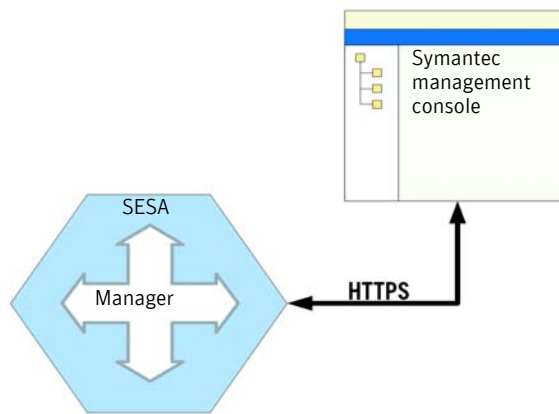


## Symantec management console to SESA Manager data path and flow

The SESA management console uses Java applets to communicate with the SESA Manager over HTTPS.

Figure 2-6 shows the Symantec management console to SESA Manager data channel.

**Figure 2-6** Symantec management console to SESA Manager data channel



All data that is displayed in the Symantec management console is the result of requests from the Symantec management console to the SESA Manager. The SESA Manager passes on the appropriate requests to the SESA Directory or SESA DataStore and returns that data to the Symantec management console for display. In this sense, all data flow from the SESA Manager to the Symantec management console is constrained by the data flow from the SESA Directory and from the SESA DataStore to the SESA Manager.

## SESA Manager to SESA Manager communications

In a SESA implementation, SESA Managers communicate with each other in much the same way that a SESA Agent communicates with SESA Managers. The data that is passed among SESA Managers includes the information that has been configured for Event Forwarding and Alert Forwarding.

### Event Forwarding and Alert Forwarding

To provide greater flexibility in the aggregation of event data, SESA can filter events and forward them from one SESA Manager for insertion into another SESA Manager's SESA DataStore. Event Forwarding is only possible between SESA Managers that share the same SESA Directory.

For more information on forwarding a subset of events in real time to another SESA DataStore, see the *Symantec Enterprise Security Architecture Administrator's Guide*.

---

**Note:** To prevent duplicate events, do not forward events between two SESA Managers that share the same SESA DataStore.

---

## SESA data path properties

[Table 2-1](#) summarizes SESA data path properties.

**Table 2-1** Properties of SESA data paths for distributed installations

Data path	Protocol
SESA Agent sending to a SESA Manager	XML-encoded CIM over HTTPS
SESA Manager sending to a SESA Agent	XML-encoded CIM over HTTP
SESA Manager sending to a SESA DataStore	JDBC
SESA Directory sending to a SESA Manager	LDAPS
Symantec management console sending to a SESA Manager	HTTPS

## Data security and protocol

SESA uses the Secure Sockets Layer (SSL) protocol for its network transport security. SESA Manager to SESA Agent communication is not done using SSL. However, SESA Agent to SESA Manager communication is done using SSL. In its default installation, SESA implements and enables anonymous SSL to secure communication between the SESA Manager and the following components:

- SESA Agent
- Symantec management console
- SESA Directory
- Other SESA Managers

After installation, you can increase SSL security to include authentication. In order of increasing data security, the levels are as follows:

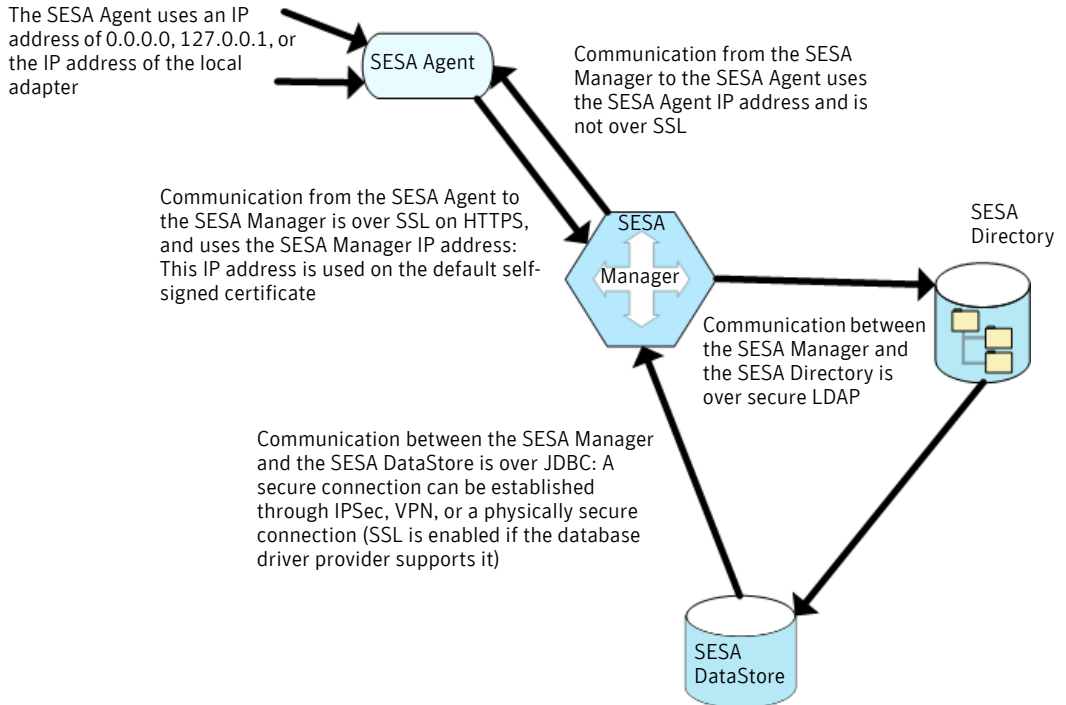
- Anonymous, self-signed SSL (default)
- Authenticated, self-signed SSL
- Authenticated, Certificate Authority (CA)-signed SSL

Anonymous SSL uses IP addresses in its self-signed certificates instead of DNS names.



Figure 2-7 shows the IP addresses that are used and the path that data takes from the SESA security product and SESA Agent to the various SESA components.

**Figure 2-7** IP addresses and security available to SESA data



Anonymous, self-signed SSL encrypts data and ensures data integrity, but does not provide authentication.

For more information on changing your security configuration, see the *Symantec Enterprise Security Architecture Administrator's Guide*.

## Deployment guidelines

Use the following task list to plan your SESA deployment:

- Define how many SESA administrative domains are required.
- Define configuration and role groups for the network.
- Define event correlations that will be used by alert detection.
- Estimate event volume for each domain.
- Define failover policy and solutions for each SESA component.
- Determine how many SESA DataStores are required for each domain, and the amount of data you want to keep online in SESA DataStores.
- Determine how many SESA Managers are required for each domain.
- Determine how many SESA Directories are required for the target network.
- Determine the types and number of servers that are required.
- Determine SESA administration staff requirements.
- Define the roll-out plan.

# Before you install SESA

This chapter includes the following topics:

- [Preparing for installation](#)
- [Logon accounts for SESA installation](#)
- [Installation CD layout](#)
- [Installation guidelines](#)
- [Types of installations](#)

## Preparing for installation

Before you install any SESA Foundation Pack software, ensure that the computers on which SESA components will be installed are properly prepared and that you understand the logon and other information that the SESA Installation Wizard requires.

Depending on which operating system platforms and how many computers you are using for your SESA installation, you will need to preinstall some third-party components and prepare some computers before you use the SESA Installation Wizard to install the SESA components.

## Preparation on all platforms

Preparing for a successful SESA component installation on both Windows and Solaris computers involves the following tasks:

- [Using static IP addresses](#)
- [Disabling standby mode](#)

In addition, you should be aware of the conditions that affect both Windows and Solaris platforms:

- [System times on installation and SESA component computers](#)
- [SESA and non-English languages](#)

### Using static IP addresses

If you are using the anonymous SSL self-signed certificates in Solaris and Windows environments, install the SESA Manager on computers that have static IP addresses. If you find that you must change the IP address of a SESA Manager or SESA Directory computer, the SESA Manager and SESA Directory computer or computers will require reconfiguring to enable SESA to use the new IP address.

For more information on reconfiguring the SESA Directory or Manager computer after an IP address change, see the *Symantec Enterprise Security Architecture Administrator's Guide*.

### Disabling standby mode

Disable standby mode on any Windows or Solaris computer on which you are installing the SESA Manager, SESA Directory, or SESA DataStore. These components cannot make contact with or be contacted by the necessary SESA components when standby mode is enabled.

### System times on installation and SESA component computers

Ensure that the system time of the computer from which you run the SESA Installation Wizard is no more than 24 hours behind the system time of the computer or computers to which you plan to install the SESA components. System times among the computers that run SESA components must also be synchronized.

If system times are not synchronized, the SESA Agents will fail to communicate with the SESA Manager or Managers, and the SESA Manager-to-SESA Directory connection can fail. Either failure can generate an untrusted certification exception error message.

Furthermore, if the SESA Manager-to-SESA Directory connection fails, you may encounter problems with default SESA SSL authentication. SESA uses a default, self-signed SSL certificate with an expiration date.

For more information on renewing a default, self-signed SESA Certificate, see the *Symantec Enterprise Security Architecture Administrator's Guide*.

## SESA and non-English languages

In SESA installations that use non-English languages, you must install a SESA Manager in a single, non-English target language. English is always installed. If you install non-English native and non-native SESA security products, you must install them in the same language as the SESA Manager. However, you can install an English-only security product on any non-English SESA Manager.

Typically, SESA logs events in a language-independent format by using tokens to represent event data. The language of the SESA Manager installation determines how the event data is displayed. The tokenized event data appears in the language of the user who is currently logged on, which is defined when the user is created.

You can only create new users for the one non-English language that the SESA Manager may support or English. At any time that event data cannot be displayed in a non-English language, it is displayed in English.

For example, a French SESA Manager is only French and English. A German SESA Manager is only German and English. A French SESA Manager can only create new users that have a preferred language of French or English. A French security product cannot be installed to a German SESA Manager. If a French SESA Manager is installed, a user whose preferred language is French will see the tokenized event data in French. An English user will see that same data in English.

---

**Warning:** When you install the SESA Directory on a Solaris computer that uses a UTF-8 language locale, the installation fails. IBM Directory Server does not support the UTF-8 locale for any language.

---

## Preparation on Windows platforms

Preparing for a SESA component installation on Windows computers involves the following tasks:

- [Disabling unnecessary services](#)
- [Avoiding port conflicts on Windows computers](#)

In addition, you should be aware of conditions that affect the following Windows features and software:

- [IBM DB2 library directory ownership](#)
- [Local administrative privileges on the Windows installation computer](#)
- [Locations of Windows installation computers](#)
- [Windows installation drives](#)
- [Windows installation directories](#)

### Disabling unnecessary services

Any time that Windows services are running and not being used, they become potential security risks. The best policy is to turn off unused services.

By default, SESA sets the following services to manual at installation:

- DB2 Remote Command
- DB2 Security Server

The IBM HTTP Administration program allows you to configure the IBM HTTP Server (Web Server) remotely using an Internet browser and is set to run as a service by the installation program. You may want to change the IBM HTTP Administration program to manual start for security reasons, but this program must be running before you can remotely configure the IBM HTTP Server.

#### To disable unnecessary services

- 1 On the computer on which you installed IBM DB2 Universal Database Workgroup Edition or IBM DB2 Universal Database Personal Edition, on the Windows taskbar, click **Start > Settings > Control Panel**.
- 2 In the Control Panel window, double-click **Administrative Tools**.
- 3 In the Administrative Tools window, double-click **Services**.
- 4 In the Services dialog box, stop the service.
- 5 Change the Startup Type for the service to Manual.
- 6 Close the Services dialog box.

## Avoiding port conflicts on Windows computers

On computers on which you plan to install a SESA Manager, ensure that any Web servers that are running on the computers do not listen on port 443. The IBM HTTP Server, which is a component used by the SESA Manager, listens on port 443.

In addition, the SESA Installation Wizard requires that you supply a listening port for the IBM DB2 or Oracle 9i database server used by the SESA DataStore on Windows computers. The default IBM DB2 port is 50000 and the default Oracle 9i port is 1521.

Ensure that no other application is listening on the same port. Additionally, if you currently have another application that is communicating with the IBM DB2 or Oracle 9i database server, ensure that it uses the port you specify during SESA installation.

By default, SESA Agents use the CIMOM port, 5998, as well as port 8086; you can change these port assignments when you configure the SESA Agents.

## Avoiding Microsoft Internet Information Server conflicts

Before you install the SESA Manager on a Windows computer that is also hosting Microsoft Internet Information Server (IIS), ensure that the WWW Publishing Service is stopped in the Services Control Panel.

If you plan to run Microsoft IIS on the same computer as the SESA Manager, after you install the SESA Manager, make sure to configure IIS to listen on a port other than 443.

For information on configuring Windows services and Microsoft IIS, see your Microsoft Windows and Microsoft Internet Information Server documentation.

## IBM DB2 library directory ownership

IBM has released a warning about potential security vulnerabilities in IBM DB2 7.2 and 8.1. The suggested solution is to change group ownership on some of the IBM DB2 libraries (Security Wire Digest Vol. 5, No. 62, dated August 18, 2003). However, the computers will not have interactive users and the installation of SESA is performed by superuser. Therefore, you should not change the ownership or group ownership as suggested.

## Local administrative privileges on the Windows installation computer

On Windows computers, SESA requires that you install the SESA software under a local administrator's account. Ensure that you log on to the computer on

which you run the SESA Installation Wizard as a local administrator for that computer.

---

**Warning:** The user name for the local administrator account must not include any spaces, or the SESA Directory does not install properly. For example, the user name `FirstName_LastName` is acceptable, while `FirstName LastName` is not.

---

## Locations of Windows installation computers

If you are installing a SESA component on a Windows computer, you must be physically located at the computer to perform the installation. SESA does not support installations via terminal services on Windows computers.

## Windows installation drives

Regardless of the drive that you choose for a SESA installation, make sure that 20 MB of disk space is available on the operating system drive of the computer. SESA always installs 20 MB of operating system and other environment files to the default system drive of the installation computer.

As a best practice in Windows environments, install the SESA Manager, SESA DataStore, and SESA Directory to NTFS drives to ensure security. In addition, certain processes are faster under NTFS rather than FAT32.

Because of FAT32 file system limitations, the maximum size for the SESA DataStore is 8 GB under FAT32. Installation fails if a size larger than 8 GB is specified. To specify a SESA DataStore larger than 8 GB, use NTFS.

On Windows 2000/2003 computers, if you attempt to install SESA to encrypted folders or compressed drives, the installation fails.

## Windows installation directories

When you install SESA, the SESA Installation Wizard requires you to supply a location for the SESA Working Directory and for the SESA Manager logs. On Windows computers, the default location is `C:\SESA`. You can specify the same or different locations for this directory depending on your needs.

For optimal performance, the installation location should not be on the same drive as the operating system. Ensure that this directory is not read-only; otherwise, SESA does not have write access to necessary files.

The SESA Installation Wizard also requires you to supply a temporary location for installation files, after which SESA deletes them. Ensure that the location that you specify has at least 75 MB of hard disk space available.



The Browse dialog box in which you locate a temporary folder contains two icons: a folder and a solid circle. The solid circle identifies a folder that has no sub-folders.

## Preparation on Solaris platforms

To prepare for a SESA component installation on a Solaris computer involves the following tasks:

- [Copying the SESA Foundation Pack CDs to a Solaris staging area](#)
- [Creating the /export/home directory](#)
- [Securing Solaris resources and programs](#)
- [Avoiding port conflicts on Solaris computers](#)

In addition, you should be aware of the operating conditions that affect the following Solaris features and software:

- [Locations of Solaris installation computers](#)
- [Local administrative privileges on the Solaris installation computer](#)
- [Solaris installation volumes](#)
- [Solaris installation directories](#)

### Copying the SESA Foundation Pack CDs to a Solaris staging area

If you are installing any SESA components on Solaris computers, you should copy the installation images of the SESA Foundation Pack CDs to a staging area on a local Solaris computer.

#### To copy the SESA Foundation Pack CDs to a Solaris staging area

- 1 On the Solaris computer, insert the Solaris CD1 into the CD-ROM drive.
- 2 To copy the installation image on the CD, type the following command:  

```
cp -pr /cdrom/cdrom0/* /u01/Solaris.CD1
```

You may need to create a directory first, depending on your Solaris environment.
- 3 Repeat steps 1 and 2 for the Solaris CD2.

## Creating the /export/home directory

This directory must exist before you run the SESA Installation Wizard.

### To create the /export/home directory

- 1 Open a Terminal window to the Solaris computer on which you want to install SESA and become superuser.
- 2 Type the following command:  

```
mkdir /export/home
```

## Securing Solaris resources and programs

As a best practice, before you begin the SESA installation, make sure to secure the various programs and resources that are operating in your Solaris environment.

The following is a partial list of Solaris resources and programs that you should secure from exploitation:

- telnet
- ftp
- finger
- sadmind
- rusersd
- sprayd
- rstatd
- printer (lpd)
- fs (font server)

In addition, the Oracle database server sets up default passwords that are known to all Oracle users. As a best practice, change these default passwords to secure your Oracle database.

## Avoiding port conflicts on Solaris computers

On computers on which you plan to install a SESA Manager, you must ensure that any Web servers that are running on the computers do not listen on port 443. The IBM HTTP Server, which is a component used by the SESA Manager, listens on port 443.

In addition, the SESA Installation Wizard requires that you supply a listening port for the Oracle 9i database server used by the SESA DataStore. The default Oracle 9i listening port is 1521. Ensure that no other application is listening on the same port. Additionally, if you currently have another application that is communicating with the Oracle 9i database server, ensure that it uses the port you specify during SESA installation.

By default, SESA Agents use the CIMOM port, 5998, as well as port 8086; you can change these port assignments when you configure the SESA Agents.

## Local administrative privileges on the Solaris installation computer

On Solaris computers, SESA requires that you become superuser on the computer on which you are installing a SESA component. If you are initiating a Telnet session from a remote computer, you can connect to the installation computer using regular user privileges, and then switch to superuser after the connection across the network is made.

See [“Connecting to a remote Solaris computer and exporting its display”](#) on page 130.

## Locations of Solaris installation computers

If you are installing a SESA component on a Solaris computer, you can be either physically located at the Solaris computer or remotely located at another Solaris computer. You should copy the SESA Foundation Pack Solaris CD set to a staging area that is accessible from your installation computer.

See [“Copying the SESA Foundation Pack CDs to a Solaris staging area”](#) on page 57.

See [“Connecting to a remote Solaris computer and exporting its display”](#) on page 130.

## Solaris installation volumes

Regardless of the volume that you choose for a SESA installation, make sure that 20 MB of free disk space is available on the operating system volume of the computer. SESA always installs 20 MB of operating system and other environment files to the default system volume of the installation computer.

As a best practice in Solaris environments, avoid installing SESA components on NFS volumes. If you install SESA software to an NFS volume, the configuration of permissions to files on the NFS volume may cause problems.

## Solaris installation directories

When you install SESA, the SESA Installation Wizard requires you to supply a location for the SESA Working Directory and for the SESA Manager logs. On Solaris computers, the default location is `/opt/Symantec/SESA`. You can specify the same or different locations depending on your needs.

**Note:** For optimal performance, the installation location should not be on the same volume as the operating system. Ensure that this directory is not read-only; otherwise, SESA does not have write access to necessary files.

The SESA Installation Wizard also requires you to supply a temporary location for installation files, after which SESA deletes them. Ensure that the location that you specify has at least 75 MB of hard disk space available.

# Logon accounts for SESA installation

During installation, the SESA Installer prompts you to type user names and passwords for SESA infrastructure components. [Table 3-1](#) lists the logon accounts.

**Table 3-1** Logon accounts for SESA installation

Account	Description
SESA Directory	<p>The user name (in the form <code>cn=&lt;name&gt;</code>) and password for IBM Tivoli Directory Server superuser or administrator account.</p> <p>The SESA Installer creates this account if you are installing IBM Tivoli Directory Server for the first time. You can use up to 32 characters for the password, including embedded blank spaces. You can also use embedded blank spaces in the user name. Do not use characters from a double-byte character set (DBCS) or extended ASCII.</p> <p>Use this account to connect to an already installed SESA Directory when you need to create SESA Directory replicas or top-level domains, or when you need to perform IBM Tivoli Directory Server maintenance outside of SESA.</p> <p>The SESA Directory account is independent of any operating system account.</p>

**Table 3-1** Logon accounts for SESA installation

Account	Description
SESA Administrator	<p>The user name (SESAdmin) and password (which you supply) for the default SESA Administrator account. The SESA Installer creates this account in the SESA Directory. You can use between 6 and 12 characters in the password, including embedded blank spaces.</p> <p>SESA can have multiple top-level, or root, administrative domains as well as multiple subdomains. An administrator who uses the SESA Administrator account to log on to the Symantec management console has access rights to all SESA administrative domains across the entire SESA environment, regardless of which SESA Manager and associated administrative domain was used for logon.</p> <p>Because this default account has access rights to all SESA administrative domains on every SESA Manager computer, it is typically not used as a routine logon account by administrators who are not managing the entire SESA environment. Instead, the SESA Domain Administrator account is available to top-level administrators who need access to the entire SESA Directory tree for installing SESA DataStores and SESA Managers.</p> <p>You can log on to the Symantec management console using the SESA Administrator account after installation without having to specify a SESA administrative domain.</p> <p>The SESA Administrator account is independent of any operating system account.</p>
SESA Domain Administrator	<p>The specified user name and password of the default SESA Domain Administrator. The SESA Installer creates this account in the SESA Directory. You can use between 6 and 12 characters in the password, including embedded blank spaces. You can use up to 32 characters in the user name, including embedded blank spaces. Do not use characters from a double-byte character set (DBCS) in the user name.</p> <p>SESA has a single administrative domain that contains all SESA-managed objects and to which the default SESA Domain Administrator user is granted administrative authority. This default administrator has access rights to the entire SESA administrative domain.</p> <p>Use the Domain Administrator name and password to log on to the SESA Manager after the SESA installation is complete.</p> <p>The SESA Domain Administrator is not a Windows account, and is independent of any Windows account.</p>

Table 3-1 Logon accounts for SESA installation

Account	Description
SESA Secure Communications	<p>The password that is used to access the key database, the company name and company location, and the key that is used to create the self-signed certificate. Key size is used to encrypt and decrypt the certificate key. The longer the key, the higher the security of the data. The default setting of 1024 bits is standard.</p> <p>You can use between 6 and 32 characters in the password, including embedded blank spaces.</p>
SESA DataStore	<p>The user name and password of the IBM DB2 or Oracle 9i database. To manage password changes, set up a unique account. When you are installing the database on a Windows computer, the SESA Installer creates a Windows account if you are installing IBM DB2 for the first time.</p> <p>You can use up to 14 characters in the password, including embedded blank spaces. You can use up to 30 characters for the user name. User names can only include standard alphabetic characters, digits, and the characters @, #, and \$. Do not prefix a user name with a digit, SQL, IBM, or SYS, or end it with a \$. In addition, you cannot use any of the following reserved words for user names: USERS, ADMINS, GUESTS, PUBLIC, or LOCAL. Do not use characters from a double-byte character set (DBCS) or extended ASCII in either a user name or password.</p> <p>Use this user name and password to connect to an already installed SESA DataStore when you install other SESA components and perform database maintenance outside of SESA.</p> <p>On Windows platforms, as a best practice, use a local account rather than a Windows domain account. This prevents domain accounts from controlling the definition and membership of Windows groups that the DBA uses to grant DB2 privileges.</p>
Web Server (Windows only)	<p>The user name and password for a Windows account. These are required to install the IBM HTTP Server. If the account does not exist, it is created.</p> <p>This Windows account must use a password. You can use up to 32 characters in the user name or password, including embedded blank spaces. Do not use characters from a double-byte character set (DBCS) in the password.</p> <p>To manage password changes, set up a unique account.</p> <p>The Windows account user name is case-sensitive when it is used to log on to the IBM HTTP Server.</p> <p>To ensure optimal security, use an account that does not have administrative privileges.</p>

# Installation CD layout

SESA 2.1 has two CD distribution sets:

- SESA Foundation Pack 2.1 with No Database
- SESA Foundation Pack 2.1 with SESA DataStore (IBM DB2 for Windows)

## SESA Foundation Pack 2.1 with No Database

The SESA Foundation Pack 2.1 with No Database contains the following CDs:

- SESA Manager for Windows (Installation Disk 1 of 2)  
This CD contains the following directories:
  - ACROBAT: Contains Adobe Acrobat Reader software for Windows, Solaris, and Linux platforms
  - AGENT: Contains the components to install the SESA Agent
  - DOCS: Contains documentation for the SESA product
  - MANAGER: Contains the components to install the SESA Manager
  - OPENSRC: Contains installation open source files (LDAP SDK, SNMP, and CIMOM)
  - RSPFILES: Contains silent installation response files for IBM DB2 Personal Edition
  - SIPI: Contains some of the components for integrating Symantec and other security products with SESA
  - SIPPACKAGES: Contains a set of SESA Integration Packages (SIPs) required for product integration
  - TOOLS/MIGRATION: Contains a set of tools that support migration
  - TOOLS/TOMCAT: Contains a set of files that help to optimize the TOMCAT JVM
  - UTILS: Contains Windows 32-bit LiveUpdate and redistributed third-party components (J2RE, SDK, JSSE, IBM HTTP, Apache Tomcat, and Microsoft DLLs)
  - UTILS/DBTOOLS: Contains scripts and batch files to maintain and optimize database performance, and a SESA Data Maintenance Utility to purge, copy, and move data.
  - UTILS/MIB: Contains SESA SNMP trap definition files
- SESA Directory for Windows (Installation Disk 2 of 2)  
This CD contains the components to install the IBM Directory Server.

- SESA DataStore for Windows – For Demo Purposes Only (IBM DB2 Personal Edition 8.1 with FixPak 6a)  
This CD contains the components to install the IBM DB2 Database Personal Edition with FixPak 6a (for demonstration or test installations) and the product documentation.
- SESA Manager for Solaris (Installation Disk 1 of 3)  
This CD contains the following directories:
  - ACROBAT: Contains Adobe Acrobat Reader software for Windows, Solaris, and Linux platforms
  - AGENT: Contains the components to install the SESA Agent
  - DOCS: Contains documentation for the SESA product
  - MANAGER: Contains the components to install the SESA Manager
  - OPENSRC: Contains installation open source files (LDAP SDK, SNMP, and CIMOM)
  - ORACLE: Contains the components to configure the Oracle 9i database server
  - SIPI: Contains some of the components for integrating Symantec and other security products with SESA
  - SIPPACKAGES: Contains a set of SESA Integration Packages (SIPs) required for product integration
  - UTILS: Contains redistributed third-party components (J2RE, SDK, JSSE, IBM HTTP, Apache Tomcat, and Microsoft DLLs)
  - UTILS/DBTOOLS: Contains scripts and batch files to maintain and optimize database performance, and a SESA Data Maintenance Utility to purge, copy, and move data
  - UTILS/MIB: Contains SESA SNMP trap definition files
- SESA Directory for Solaris CD 1- Database for SESA Directory (Installation Disk 2 of 3)  
This CD contains a restricted version of IBM DB2 Enterprise Edition 8.1 with FixPak 2 that can be used to support IBM Tivoli Directory Server 5.2. It is intended for use with the SESA Directory only.
- SESA Directory for Solaris CD 2 (Installation Disk 3 of 3)  
This CD contains IBM Tivoli Directory Server 5.2



## SESA Foundation Pack 2.1 with SESA DataStore (IBM DB2 for Windows)

The SESA Foundation Pack 2.1 with SESA DataStore (IBM DB2 for Windows) contains the following CDs:

- **SESA Manager for Windows (Installation Disk 1 of 2)**  
This CD contains the following directories:
  - **ACROBAT:** Contains Adobe Acrobat Reader software for Windows, Solaris, and Linux platforms
  - **AGENT:** Contains the components to install the SESA Agent
  - **DOCS:** Contains documentation for the SESA product
  - **MANAGER:** Contains the components to install the SESA Manager
  - **OPENSRC:** Contains installation open source files (LDAP SDK, SNMP, and CIMOM)
  - **RSPFILES:** Contains silent installation response files for IBM DB2 Personal Edition
  - **SIPI:** Contains some of the components for integrating Symantec and other security products with SESA
  - **SIPPACKAGES:** Contains a set of SESA Integration Packages (SIPs) required for product integration
  - **TOOLS/MIGRATION:** Contains a set of tools that support migration
  - **TOOLS/TOMCAT:** Contains a set of files that help to optimize the TOMCAT JVM
  - **UTILS:** Contains Windows 32-bit LiveUpdate and redistributed third-party components (J2RE, SDK, JSSE, IBM HTTP, Apache Tomcat, and Microsoft DLLs)
  - **UTILS/DBTOOLS:** Contains scripts and batch files to maintain and optimize database performance, and a SESA Data Maintenance Utility to purge, copy, and move data.
  - **UTILS/MIB:** Contains SESA SNMP trap definition files
- **SESA Directory for Windows (Installation Disk 2 of 2)**  
This CD contains the components to install the IBM Directory Server.
- **SESA DataStore for Windows – For Demo Purposes Only (IBM DB2 Personal Edition 8.1 with FixPak 6a)**  
This CD contains the components to install the IBM DB2 Database Personal Edition with FixPak 6a (for demonstration or test installations) and the product documentation.

- SESA DataStore for Windows (IBM DB2 Workgroup Edition 8.1 with FixPak 6a)  
This CD contains a version of IBM DB2 Workgroup Edition 8.1 that can be used as the SESA DataStore. It is intended for use with SESA only, and not for use as a general purpose database. Its installation is restricted to a single server with a maximum of four processors, and it is intended for use by a limited number of users, all of whom must be DB2 system administrators. It does not include IBM upgrade insurance or other upgrade insurance. Contact IBM for information on obtaining upgrades to this product.
- SESA Manager for Solaris (Installation Disk 1 of 3)  
This CD contains the following directories:
  - ACROBAT: Contains Adobe Acrobat Reader software for Windows, Solaris, and Linux platforms
  - AGENT: Contains the components to install the SESA Agent
  - DOCS: Contains documentation for the SESA product
  - MANAGER: Contains the components to install the SESA Manager
  - OPENSRC: Contains installation open source files (LDAP SDK, SNMP, and CIMOM)
  - ORACLE: Contains the components to configure the Oracle 9i database server
  - SIPI: Contains some of the components for integrating Symantec and other security products with SESA
  - SIPPACKAGES: Contains a set of SESA Integration Packages (SIPs) required for product integration
  - UTILS: Contains redistributed third-party components (J2RE, SDK, JSSE, IBM HTTP, Apache Tomcat, and Microsoft DLLs)
  - UTILS/DBTOOLS: Contains scripts and batch files to maintain and optimize database performance, and a SESA Data Maintenance Utility to purge, copy, and move data
  - UTILS/MIB: Contains SESA SNMP trap definition files
- SESA Directory for Solaris CD 1- Database for SESA Directory (Installation Disk 2 of 3)  
This CD contains IBM DB2 8.1 with FixPak 2
- SESA Directory for Solaris CD 2 (Installation Disk 3 of 3)  
This CD contains IBM Tivoli Directory Server 5.2
- IBM DB2 Runtime Client (with FixPak 6a) for Windows  
This CD contains all the components necessary to install the IBM DB2 Runtime Client on Windows.

- IBM DB2 Runtime Client for Solaris  
This CD contains all the components necessary to install the IBM DB2 Runtime Client on Solaris.
- FixPak 6a for IBM DB2 Runtime Client for Solaris  
This CD contains FixPak 6a that must be applied after the initial installation of the IBM DB2 Runtime Client on Solaris.

## Installation guidelines

The computer resources in your network and the database that you choose for the SESA DataStore dictate which operating systems and the number of computers that you use in your SESA installation. There are many variations of supported SESA installations that range from a complete installation on a single computer to various combinations of components on multiple computers and multiple platforms. The same SESA Installation Wizard guides you through all SESA installation types. Using the SESA Installation Wizard, you install each SESA component one at a time.

Before you start the SESA Installation Wizard, ensure that you do the following:

- Plan your SESA deployment.  
See [“Deployment guidelines”](#) on page 50.
- Install the necessary third-party software on the computers.  
See [“Preparing third-party software on Windows platforms”](#) on page 77.  
See [“Installing third-party software on Solaris computers”](#) on page 97.  
See [“Types of installations”](#) on page 67.
- Prepare your environment for SESA components.  
See [“Preparing for installation”](#) on page 51.

## Types of installations

[Table 3-2](#) through [Table 3-10](#) list the types of installations that the SESA Foundation Pack supports, along with the procedures to set up each type of installation.

Regardless of the type of installation that you perform, you must install the SESA Directory first. You then install one or more SESA DataStores. You must give each SESA DataStore information about the SESA Directory. Finally, you install the SESA Manager, and give each SESA Manager information about the SESA Directory and the SESA DataStore to which it connects.

After you install the SESA Directory, SESA DataStore, and SESA Manager, you can use the SESA Installation Wizard to install a SESA Directory replica, additional SESA domains, and SESA Agents for heartbeat monitoring, as necessary.


For more information on setting up SESA Manager-to-Directory failover support, see the *Symantec Enterprise Security Architecture Administrator's Guide*.

See [“Installing additional SESA domains”](#) on page 198.

See [“Installing the SESA Agent for heartbeat monitoring”](#) on page 180.

[Table 3-2](#) describes the Express installation and the relevant procedure.

**Table 3-2** All-Windows installations

Express Installation		Installation procedure
 Windows	All three SESA components installed on a single Windows computer. The Express installation program automatically installs the IBM DB2® Universal Database Personal Edition	<a href="#">“Performing an Express Install”</a> on page 135

You only need one Windows computer to test or demonstrate SESA in a nonproduction environment. The express installation installs all three SESA components and IBM DB2® Universal Database Personal Edition on a single Windows computer. IBM DB2 Personal Edition is provided on the SESA distribution media and is used for the SESA DataStore. You are not required to install any third-party components prior to installing SESA components.

Table 3-3 describes the three possible hardware configurations for an all-Windows installation and the relevant procedures.

**Table 3-3** All-Windows installations



All-Windows installation	Installation procedure
<div>  <p>All three SESA components installed on a single Windows computer</p> </div> <div> <p>or</p> <div>   <p>Two SESA components on one Windows computer and one SESA component on another Windows computer</p> </div> </div> <div> <p>or</p> <div>    <p>One SESA component on each Windows computer</p> </div> </div> <p>To run SESA in an all-Windows production environment, you can use up to three computers. SESA supports IBM DB2 Universal Database 8.1 FixPak 6a (Workgroup Edition [WE] or Enterprise Edition [EE]) and Oracle 9i database for the SESA DataStore. You must have installed the database prior to installing the SESA DataStore.</p> <p>Before you install the SESA Manager on a Windows computer, you must first do the following:</p> <ul style="list-style-type: none"> <li>■ If you are using IBM DB2 8.1 FixPak 6a as the database for the SESA DataStore, and the SESA DataStore and SESA Manager are on different computers, install the IBM DB2 Runtime Client 8.1 FixPak 6a to support the remote connection.</li> <li>■ Install the Java Software Development Kit (SDK) 1.3.1_09.</li> </ul> <p>If the SESA DataStore or SESA Directory is installed remotely from the SESA Manager, before you install the SESA DataStore, install the supported Java Runtime Environment (J2RE) 1.3.1_09.</p> <p>After you install the SESA Manager, SESA Directory, and SESA DataStore, you must install a SESA Agent for heartbeat monitoring on the SESA Directory and SESA DataStore computer or computers.</p>	<p>Complete the following third-party software installation and preparation procedures, as appropriate:</p> <ul style="list-style-type: none"> <li>■ <a href="#">“Installing a supported version of the IBM DB2 database”</a> on page 80 or <a href="#">“Preparing for and installing Oracle 9i on a Windows computer”</a> on page 83 (for the SESA DataStore database server)</li> <li>■ <a href="#">“Installing an IBM DB2 Runtime Client on a Windows computer”</a> on page 81 (if the SESA Manager and SESA DataStore will be installed on different computers)</li> <li>■ <a href="#">“Installing the Java Software Development Kit on Windows”</a> on page 79 (on the SESA Manager computer)</li> <li>■ <a href="#">“Installing the Java Runtime Environment on Windows”</a> on page 79 (on all other SESA component computers)</li> </ul> <p>Complete the following SESA component installation procedures in the order in which they are listed, as appropriate:</p> <ul style="list-style-type: none"> <li>■ <a href="#">“Installing the SESA Directory on a Windows computer”</a> on page 143</li> <li>■ <a href="#">“Installing a SESA DataStore for IBM DB2 on a Windows computer”</a> on page 153</li> <li>■ <a href="#">“Installing the SESA Manager on a Windows computer”</a> on page 173</li> <li>■ <a href="#">“Installing a SESA Agent for heartbeat monitoring on a Windows computer”</a> on page 181 (if more than one Windows computer is used)</li> </ul>

Table 3-4 describes the two possible hardware configurations for an all-Solaris installation and the relevant procedures.

Table 3-4 All-Solaris installations

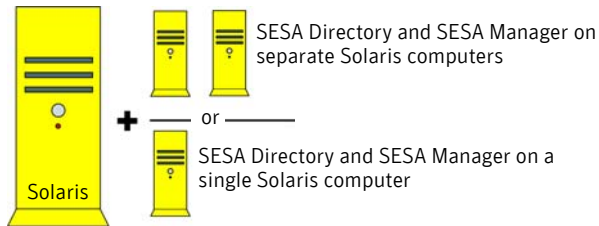
All-Solaris installation	Installation procedure
<div><p>SESA DataStore (Oracle)</p><p>SESA Directory and SESA Manager on separate Solaris computers</p><p>or</p><p>SESA Directory and SESA Manager on a single Solaris computer</p></div> <p>You can use two or three Solaris computers for an all-Solaris installation. You must have a dedicated Solaris computer that is running Oracle 9i for the SESA DataStore. The SESA Directory and SESA Manager can be installed on the same or different computers.</p> <p>Before you install the SESA Manager on a Solaris computer, you must first install the Java Software Development Kit (SDK) 1.3.1_09.</p> <p>Before you install the SESA Directory, you must install a supported IBM DB2 database (Workgroup or Enterprise Edition version 8.1 with FixPak 6a) to support the IBM Tivoli Directory Server 5.2 and the connection to the SESA DataStore.</p> <p>Before you install the SESA Directory or SESA DataStore, you must install the Java Runtime Environment (J2RE) 1.3.1_09.</p> <p>After you install the SESA Directory, SESA DataStore, and SESA Manager, you must install a SESA Agent for heartbeat monitoring on the SESA DataStore computer. If the SESA Directory is on a different computer than the SESA Manager, you must also install another SESA Agent for heartbeat monitoring on the SESA Directory computer.</p>	<p>Complete the following third-party software installation and preparation procedures, as appropriate:</p> <ul style="list-style-type: none"><li>■ <a href="#">“Preparing for and installing Oracle 9i on a Solaris computer”</a> on page 112</li><li>■ <a href="#">“Installing the Java Software Development Kit on Solaris computers”</a> on page 105 (on the SESA Manager computer)</li><li>■ <a href="#">“Installing the Java Runtime Environment on Solaris or Linux computers”</a> on page 106 (on all other SESA component computers)</li><li>■ <a href="#">“Installing IBM DB2 Enterprise Edition on a Solaris computer”</a> on page 108</li></ul> <p>Complete the following SESA component installation procedures in the order in which they are listed, as appropriate:</p> <ul style="list-style-type: none"><li>■ <a href="#">“Installing the SESA Directory on a Solaris computer”</a> on page 148</li><li>■ <a href="#">“Installing the SESA DataStore for Oracle on a Solaris computer”</a> on page 166</li><li>■ <a href="#">“Installing the SESA Manager on a Solaris computer”</a> on page 176</li><li>■ <a href="#">“Installing a SESA Agent for heartbeat monitoring on a Solaris computer”</a> on page 183 (on the SESA DataStore and, if necessary, on the SESA Directory computers)</li></ul>

Table 3-5 describes the mixed platform hardware configuration: SESA Directory on Solaris; SESA Manager and SESA DataStore on Windows.

**Table 3-5** Mixed platform: SESA Directory on Solaris

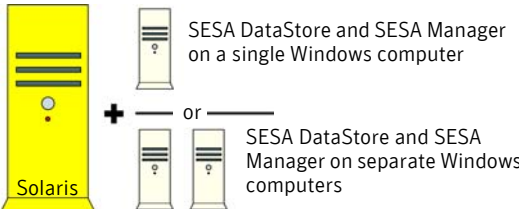
Mixed platform: SESA Directory on Solaris	Installation procedure
 <p>SESA Directory</p> <p>You use one Solaris computer for the SESA Directory, and either one or two Windows computers for the SESA Manager and SESA DataStore. Prior to installing the SESA DataStore, you must install Oracle 9i or IBM DB2 Universal Database (Workgroup Edition [WE] or Enterprise Edition [EE]).</p> <p>Before you install the SESA Directory, you must first install the following:</p> <ul style="list-style-type: none"><li>■ A supported IBM DB2 8.1 FixPak 6a database (EE 8.1 FixPak 2 is included with SESA 2.1) to support the IBM Tivoli Directory Server 5.2.</li><li>■ The Java Runtime Environment (J2RE) 1.3.1_09</li></ul> <p>Before you install the SESA Manager on a Windows computer, you must first install the following:</p> <ul style="list-style-type: none"><li>■ The IBM DB2 Runtime Client 8.1 FixPak 6a on the SESA Manager Windows computer to support the remote database connection if the SESA DataStore and SESA Manager are installed on different computers</li><li>■ The Java Software Development Kit (SDK) 1.3.1_09</li></ul> <p>If the SESA DataStore is installed remotely from the SESA Manager, before you install the SESA DataStore, you must install the Java Runtime Environment (J2RE) 1.3.1_09. Then, after you install the remote SESA DataStore, you must install a SESA Agent for heartbeat monitoring.</p> <p>Similarly, after you install the SESA Directory, you must install a SESA Agent for heartbeat monitoring.</p>	<p>Complete the following third-party software installation and preparation procedures, as appropriate:</p> <ul style="list-style-type: none"><li>■ <a href="#">“Installing IBM DB2 Enterprise Edition on a Solaris computer”</a> on page 108</li><li>■ <a href="#">“Installing a supported version of the IBM DB2 database”</a> on page 80 or <a href="#">“Preparing for and installing Oracle 9i on a Windows computer”</a> on page 83 (for the SESA DataStore database)</li><li>■ <a href="#">“Installing an IBM DB2 Runtime Client on a Windows computer”</a> on page 81 (if the SESA Manager and SESA DataStore are remotely installed)</li><li>■ <a href="#">“Installing the Java Software Development Kit on Windows”</a> on page 79 (on the SESA Manager computer)</li><li>■ <a href="#">“Installing the Java Runtime Environment on Windows”</a> on page 79 (on the SESA DataStore computer, if it is remotely installed from the SESA Manager)</li><li>■ <a href="#">“Installing the Java Runtime Environment on Solaris or Linux computers”</a> on page 106 (on the SESA Directory computer)</li></ul> <p>Complete the following SESA installation procedures in the order in which they are listed, as appropriate:</p> <ul style="list-style-type: none"><li>■ <a href="#">“Installing the SESA Directory on a Solaris computer”</a> on page 148</li><li>■ <a href="#">“Installing a SESA DataStore for IBM DB2 on a Windows computer”</a> on page 153</li><li>■ <a href="#">“Installing the SESA Manager on a Windows computer”</a> on page 173</li><li>■ <a href="#">“Installing a SESA Agent for heartbeat monitoring on a Solaris computer”</a> on page 183</li><li>■ <a href="#">“Installing a SESA Agent for heartbeat monitoring on a Windows computer”</a> on page 181 (if the SESA Manager and SESA DataStore are remotely installed)</li></ul>

Table 3-6 describes the mixed platform hardware configuration: SESA DataStore on Solaris; SESA Manager and SESA Directory on Windows.

Table 3-6 Mixed platform: SESA DataStore on Solaris, SESA Manager and SESA Directory on Windows

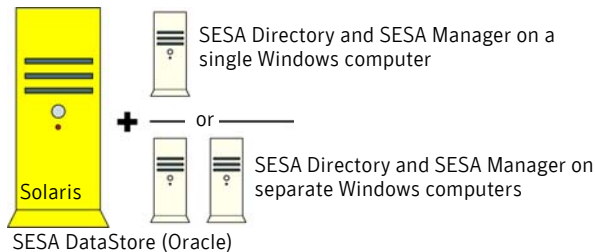
Mixed platform: SESA DataStore on Solaris	Installation procedure
<div><p>SESA DataStore (Oracle)</p><p>SESA Directory and SESA Manager on a single Windows computer</p><p>SESA Directory and SESA Manager on separate Windows computers</p></div> <p>To use Oracle 9i as the database for the SESA DataStore, you must use a dedicated Solaris computer that has no other SESA components installed. You can use one or two Windows computers for the other SESA components.</p> <p>Before you install the SESA Manager on a Windows computer, you must first install the Java Software Development Kit (SDK) 1.3.1_09.</p> <p>To support a SESA 2.1 Directory, you must install the following:</p> <ul style="list-style-type: none"><li>■ A supported IBM DB2 8.1 FixPak 6a database (EE 8.1 FixPak 2 is included with SESA 2.1) to support the IBM Tivoli Directory Server 5.2.</li><li>■ If the SESA Directory is installed remotely from the SESA Manager, you must install the Sun Java Runtime Environment (J2RE) 1.3.1_09.</li></ul> <p>Before you install the SESA DataStore on a Solaris computer, you must install the Java Runtime Environment (J2RE) 1.3.1_09.</p> <p>After you install the SESA Directory, SESA DataStore, and SESA Manager, you must do the following:</p> <ul style="list-style-type: none"><li>■ Install a SESA Agent for heartbeat monitoring on the SESA DataStore Solaris computer or computers.</li></ul> <p>If the SESA Directory is installed remotely from the SESA Manager, install the SESA Agent for heartbeat monitoring on the SESA Directory Solaris computer.</p>	<p>Complete the following third-party software installation and preparation procedures, as appropriate:</p> <ul style="list-style-type: none"><li>■ <a href="#">“Preparing for and installing Oracle 9i on a Solaris computer”</a> on page 112</li><li>■ <a href="#">“Installing the Java Software Development Kit on Windows”</a> on page 79 (on the SESA Manager computer)</li><li>■ <a href="#">“Installing the Java Runtime Environment on Solaris or Linux computers”</a> on page 106 (on the SESA DataStore computer)</li><li>■ <a href="#">“Installing the Java Runtime Environment on Windows”</a> on page 79 (on the SESA Directory computer if it is installed remotely from the SESA Manager computer)</li></ul> <p>Complete the following SESA installation procedures in the order in which they are listed, as appropriate:</p> <ul style="list-style-type: none"><li>■ <a href="#">“Installing the SESA Directory on a Windows computer”</a> on page 143</li><li>■ <a href="#">“Installing the SESA DataStore for Oracle on a Solaris computer”</a> on page 166</li><li>■ <a href="#">“Installing the SESA Manager on a Windows computer”</a> on page 173</li><li>■ <a href="#">“Installing a SESA Agent for heartbeat monitoring on a Solaris computer”</a> on page 183</li><li>■ <a href="#">“Installing a SESA Agent for heartbeat monitoring on a Windows computer”</a> on page 181 (if the SESA Directory is installed remotely from the SESA Manager)</li></ul>



Table 3-7 describes the mixed platform hardware configuration: SESA Manager on Solaris; SESA Datastore and SESA Directory on Windows.

**Table 3-7** Mixed platform: SESA Manager on Solaris, SESA DataStore and SESA Directory on Windows

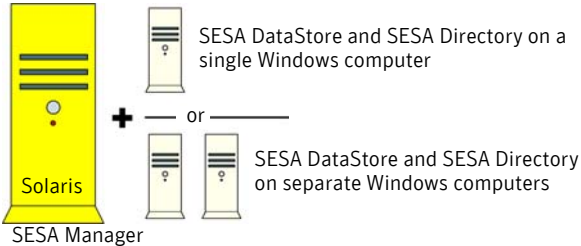
Mixed platform: SESA Manager on Solaris	Installation procedure
 <p>The diagram illustrates the hardware configuration for a mixed platform installation. On the left, a yellow Solaris computer icon is labeled 'Solaris' and 'SESA Manager'. To its right, a plus sign is followed by the text 'or'. This is followed by two options: 1) A single Windows computer icon labeled 'SESA DataStore and SESA Directory on a single Windows computer'. 2) Two separate Windows computer icons labeled 'SESA DataStore and SESA Directory on separate Windows computers'.</p> <p>You can install the SESA Manager on a Solaris computer and install other SESA components on one or two Windows computers. SESA supports Oracle 9i or IBM DB2 Universal Database (Workgroup Edition [WE] or Enterprise Edition [EE]) for the SESA DataStore. You must have installed the database prior to installing the SESA DataStore.</p> <p>Before you install the SESA Manager on a Solaris computer, you must first install the following:</p> <ul style="list-style-type: none"> <li>■ The IBM DB2 8.1 Runtime Client FixPak 6a on the SESA Manager Solaris computer to support the remote database connection</li> <li>■ The Java Software Development Kit (SDK) 1.3.1_09</li> </ul> <p>If the SESA Directory is installed remotely from the SESA Manager, before you install it on the remote computer, you must install the Sun Java Runtime Environment (J2RE) 1.3.1_09.</p> <p>Because the SESA DataStore is installed remotely from the SESA Manager, before you install it, you must install the Java Runtime Environment (J2RE) 1.3.1_09 on the SESA DataStore computer.</p> <p>After you install the SESA Directory, SESA DataStore, and SESA Manager, you must also install a SESA Agent for heartbeat monitoring on the SESA Directory and SESA DataStore Windows computer or computers.</p>	<p>Complete the following third-party software installation and preparation procedures, as appropriate:</p> <ul style="list-style-type: none"> <li>■ <a href="#">“Installing a supported version of the IBM DB2 database”</a> on page 80 or <a href="#">“Preparing for and installing Oracle 9i on a Windows computer”</a> on page 83 (for the SESA DataStore database)</li> <li>■ <a href="#">“Installing an IBM DB2 Runtime Client on a Solaris computer”</a> on page 126</li> <li>■ <a href="#">“Installing the Java Software Development Kit on Solaris computers”</a> on page 105 (on the SESA Manager computer)</li> <li>■ <a href="#">“Installing the Java Runtime Environment on Windows”</a> on page 79 (on all other SESA component computers)</li> </ul> <p>Complete the following SESA component installation procedures in the order in which they are listed, as appropriate:</p> <ul style="list-style-type: none"> <li>■ <a href="#">“Installing the SESA Directory on a Windows computer”</a> on page 143</li> <li>■ <a href="#">“Installing a SESA DataStore for IBM DB2 on a Windows computer”</a> on page 153</li> <li>■ <a href="#">“Installing the SESA Manager on a Solaris computer”</a> on page 176</li> <li>■ <a href="#">“Installing a SESA Agent for heartbeat monitoring on a Windows computer”</a> on page 181 (on the SESA DataStore and SESA Directory computer or computers)</li> </ul>

Table 3-8 describes the mixed platform hardware configuration: SESA Manager on Windows; SESA Datastore and SESA Directory on Solaris.

Table 3-8

Mixed platform: SESA Manager on Windows, SESA DataStore and SESA Directory on Solaris




Mixed platform: SESA Manager on Windows	Installation procedure
<div><div><div>SESA Manager</div><div></div><div>Windows</div></div><div><div>SESA Directory</div><div></div><div>Solaris</div></div><div><div>SESA DataStore (Oracle)</div><div></div><div>Solaris</div></div></div> <p>You can install the SESA Manager on a Windows computer and the other SESA components on two different Solaris computers. Because the underlying database for the SESA DataStore is Oracle 9i, you must use a dedicated Solaris computer. You can use a different Solaris computer for the SESA Directory.</p> <p>Before you install the SESA Manager on a Windows computer, you must first install the Java Software Development Kit (SDK) 1.3.1_09.</p> <p>Before you install the SESA Directory, you must install a supported IBM DB2 database (Workgroup or Enterprise Edition version 8.1 with FixPak 6a) to support the IBM Directory Server and the connection to the SESA DataStore and SESA Manager.</p> <p>In addition, you must install the Java Runtime Environment (J2RE) 1.3.1_09 on the SESA Directory and SESA DataStore computers.</p> <p>After you install the SESA Directory, SESA DataStore, and SESA Manager, you must also install a SESA Agent for heartbeat monitoring on the SESA DataStore and SESA Directory Solaris computers.</p>	<p>Complete the following third-party software installation and preparation procedures, as appropriate:</p> <ul style="list-style-type: none"><li>■ <a href="#">“Preparing for and installing Oracle 9i on a Solaris computer”</a> on page 112</li><li>■ <a href="#">“Installing the Java Software Development Kit on Windows”</a> on page 79 (on the SESA Manager computer)</li><li>■ <a href="#">“Installing the Java Runtime Environment on Solaris or Linux computers”</a> on page 106 (on all other SESA component computers)</li><li>■ <a href="#">“Installing IBM DB2 Enterprise Edition on a Solaris computer”</a> on page 108</li></ul> <p>Complete the following SESA component installation procedures in the order in which they are listed, as appropriate:</p> <ul style="list-style-type: none"><li>■ <a href="#">“Installing the SESA Directory on a Solaris computer”</a> on page 148</li><li>■ <a href="#">“Installing the SESA DataStore for Oracle on a Solaris computer”</a> on page 166</li><li>■ <a href="#">“Installing the SESA Manager on a Windows computer”</a> on page 173</li><li>■ <a href="#">“Installing a SESA Agent for heartbeat monitoring on a Solaris computer”</a> on page 183 (on both the SESA Directory and SESA DataStore computers)</li></ul>

Table 3-9 describes mixed platform hardware configuration: SESA DataStore on Windows; SESA Manager and SESA Directory on Solaris.

**Table 3-9** Mixed platform: SESA DataStore on Windows

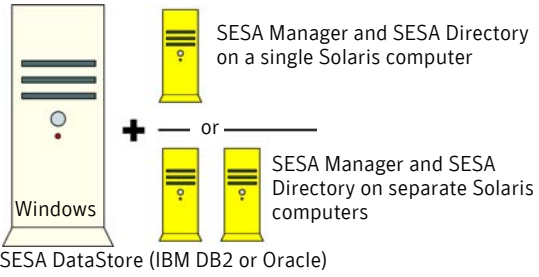
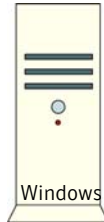


Mixed platform: SESA DataStore on Windows	Installation procedure
 <p>SESA DataStore (IBM DB2 or Oracle)</p> <p>You can install the SESA DataStore on a Windows computer that is running Oracle 9i or IBM DB2 Universal Database (Workgroup Edition [WE] or Enterprise Edition [EE]). You can install the other SESA components on Solaris computers.</p> <p>Before you install the SESA Manager on a Solaris computer, you must install the following:</p> <ul style="list-style-type: none"> <li>■ The IBM DB2 Runtime Client on the SESA Manager Solaris computer to support the remote database connection</li> <li>■ The Java Software Development Kit (SDK) 1.3.1_09</li> </ul> <p>Before you install the SESA Directory, you must install the following:</p> <ul style="list-style-type: none"> <li>■ A supported IBM DB2 8.1 FixPak 6a database (EE 8.1 FixPak 2 is included with SESA 2.1) to support the IBM Tivoli Directory Server 5.2 and the SESA DataStore connection</li> <li>■ The Java Runtime Environment (J2RE) 1.3.1_09</li> </ul> <p>Before you install the SESA DataStore, you must install the Java Runtime Environment (J2RE) 1.3.1_09.</p> <p>After you install the SESA Directory, SESA DataStore, and SESA Manager, you must do the following:</p> <ul style="list-style-type: none"> <li>■ Install a SESA Agent for heartbeat monitoring on the SESA DataStore Windows computer.</li> </ul> <p>If the SESA Directory is installed remotely from the SESA Manager, install the SESA Agent for heartbeat monitoring on the SESA Directory Solaris computer.</p>	<p>Complete the following third-party software installation and preparation procedures, as appropriate:</p> <ul style="list-style-type: none"> <li>■ <a href="#">“Installing a supported version of the IBM DB2 database”</a> on page 80 or <a href="#">“Preparing for and installing Oracle 9i on a Windows computer”</a> on page 83 (for the SESA DataStore database)</li> <li>■ <a href="#">“Installing IBM DB2 Enterprise Edition on a Solaris computer”</a> on page 108</li> <li>■ <a href="#">“Installing an IBM DB2 Runtime Client on a Solaris computer”</a> on page 126</li> <li>■ <a href="#">“Installing the Java Software Development Kit on Solaris computers”</a> on page 105 (on the SESA Manager computer)</li> <li>■ <a href="#">“Installing the Java Runtime Environment on Solaris or Linux computers”</a> on page 106 (on the SESA Directory computer, if it is installed remotely from the SESA Manager computer)</li> <li>■ <a href="#">“Installing the Java Runtime Environment on Windows”</a> on page 79 (on the SESA DataStore computer)</li> </ul> <p>Complete the following SESA component installation procedures in the order in which they are listed, as appropriate:</p> <ul style="list-style-type: none"> <li>■ <a href="#">“Installing the SESA Directory on a Solaris computer”</a> on page 148</li> <li>■ <a href="#">“Installing a SESA DataStore for IBM DB2 on a Windows computer”</a> on page 153</li> <li>■ <a href="#">“Installing the SESA Manager on a Solaris computer”</a> on page 176</li> <li>■ <a href="#">“Installing a SESA Agent for heartbeat monitoring on a Windows computer”</a> on page 181 (on the SESA DataStore computer)</li> <li>■ <a href="#">“Installing a SESA Agent for heartbeat monitoring on a Solaris computer”</a> on page 183 (on the SESA Directory computer if it is remotely installed from the SESA Manager)</li> </ul>

Table 3-10 describes the mixed platform hardware configuration: SESA Directory on Windows; SESA DataStore and SESA Manager on Solaris.

Table 3-10 Mixed platform: SESA Directory on Windows, SESA DataStore and SESA Manager on Solaris

Mixed platform: SESA Directory on Windows			Installation procedure
SESA Directory	SESA Manager	SESA DataStore (Oracle)	<div>Complete the following third-party software installation and preparation procedures, as appropriate:</div> <ul style="list-style-type: none"><li>■ <a href="#">“Preparing for and installing Oracle 9i on a Solaris computer”</a> on page 112</li><li>■ <a href="#">“Installing the Java Software Development Kit on Solaris computers”</a> on page 105 (on the SESA Manager computer)</li><li>■ <a href="#">“Installing the Java Runtime Environment on Solaris or Linux computers”</a> on page 106 (on the SESA Directory computer)</li><li>■ <a href="#">“Installing a supported version of the IBM DB2 database”</a> on page 80</li><li>■ <a href="#">“Installing the Java Runtime Environment on Solaris or Linux computers”</a> on page 106 (on the SESA DataStore computer)</li></ul> <div>Complete the following SESA component installation procedures in the order in which they are listed, as appropriate:</div> <ul style="list-style-type: none"><li>■ <a href="#">“Installing the SESA Directory on a Windows computer”</a> on page 143</li><li>■ <a href="#">“Installing the SESA DataStore for Oracle on a Solaris computer”</a> on page 166</li><li>■ <a href="#">“Installing the SESA Manager on a Solaris computer”</a> on page 176</li><li>■ <a href="#">“Installing a SESA Agent for heartbeat monitoring on a Solaris computer”</a> on page 183</li></ul>
			
<p>You can install the SESA Directory on a Windows computer, the SESA DataStore on a dedicated Solaris computer that is running Oracle 9i, and the SESA Manager on another Solaris computer.</p> <p>Before you install the SESA Manager on a Solaris computer, you must install the Java Software Development Kit (SDK) 1.3.1_09.</p> <p>Before you install the SESA DataStore on a Solaris computer, you must install the Java Runtime Environment (J2RE) 1.3.1_09.</p> <p>Before you install the SESA Directory on Windows, you must install a supported IBM DB2 8.1 FixPak 6a database (EE 8.1 FixPak 2 is included with SESA 2.1) to support the IBM Tivoli Directory Server 5.2 and the SESA DataStore connection</p> <p>In addition, before you install the SESA Directory, you must install the Java Runtime Environment (J2RE) 1.3.1_09.</p> <p>After you install the SESA Directory, SESA DataStore, and SESA Manager, you must install a SESA Agent for heartbeat monitoring on the SESA Directory Windows and SESA DataStore Solaris computers.</p>			

# Preparing third-party software on Windows platforms

This chapter includes the following topics:

- [Determining which tasks to perform on Windows platforms](#)
- [Installing the Java Software Development Kit on Windows](#)
- [Installing a supported version of the IBM DB2 database](#)
- [Installing an IBM DB2 Runtime Client on a Windows computer](#)
- [Preparing for and installing Oracle 9i on a Windows computer](#)
- [Installing IBM Tivoli Directory Server on Windows](#)

# Determining which tasks to perform on Windows platforms

Table 4-1 lists the tasks that you must complete to prepare third-party software on Windows platforms for the installation of the specified SESA component.

Table 4-1 Tasks to prepare third-party software on Windows platforms

SESA component	Tasks
All SESA components	<p>SESA requires the Java Software Development Kit (SDK) version 1.3.1_09 for SESA Managers. SESA Directories and SESA DataStores require only the Java Runtime Environment (J2RE), which is a part of the SDK.</p> <p>See <a href="#">“Installing the Java Software Development Kit on Windows”</a> on page 79.</p>
SESA DataStore	<p>In all production environments, you must install a supported version of IBM DB2 Universal Database or Oracle 9i database server before you install the SESA DataStore.</p> <p>See <a href="#">“Installing a supported version of the IBM DB2 database”</a> on page 80.</p> <p>If you have an existing IBM DB2 database, make sure the existing version was installed as a typical version and not a compact version. SESA does not support compact IBM DB2 database versions.</p> <p>Regardless of the IBM DB2 Universal Database edition that you install, ensure that IBM DB2 services are set to Automatic Startup in the Windows Services Control Panel before you install the SESA DataStore and SESA Manager. If not, the installation fails.</p> <p>If you are installing an Oracle 9i database server for Windows, SESA provides Oracle on Windows Installation scripts that prepare and configure Oracle 9i database on Windows computers.</p> <p>See <a href="#">“Preparing for and installing Oracle 9i on a Windows computer”</a> on page 83.</p>

# Installing the Java Software Development Kit on Windows

SESA requires the supported version of the Java Software Development Kit (SDK) (program files only). You must install the supported SDK on any computer on which the SESA Manager is going to be installed. The Java Runtime Environment (J2RE) is included in the SDK. All computers that run SESA components other than the SESA Manager require the J2RE.

If the SDK is already installed, you can initiate an installation of the SDK again, if necessary.

On Windows platforms, the SDK automatically installs with the default Java Trust Store password. Password requirements at your organization may require you to modify the Java Trust Store password after it is installed.

For more information on changing the Java Trust Stores default password, see the *Symantec Enterprise Security Architecture Administrator's Guide*.

## To install the Java Software Development Kit (SDK) on a Windows computer

- 1 To start the SESA Installation Wizard, locate the folder that contains the SESA installation files, and then double-click **CDStart.exe**.
- 2 Click **Install JDK 1.3.1\_09**.  
The SESA Manager requires at least the SDK program files. All other SESA components require only the J2RE, which is installed with the SDK.
- 3 Follow the on-screen instructions to complete the SDK installation.

## Installing the Java Runtime Environment on Windows

All computers that run SESA components other than the SESA Manager require the Java Runtime Environment (J2RE). When you use the SESA Installation Wizard to install the SDK, the J2RE is also installed. However, you can also install the J2RE without the accompanying SDK files. J2RE version 1.3.1\_09 is located on the SESA Foundation Pack Windows CD1 and should be used for new SESA installations. If you are migrating to SESA 2.1 from an earlier version and J2RE 1.3.1\_02 has already been installed on the computer, it can also be used.

**To install the Java Runtime Environment on a Windows computer**

- 1 On the SESA component computer, insert the SESA Foundation Pack CD1 into the CD-ROM drive.
- 2 On the CD, navigate to the UTILS/JRE directory.
- 3 In the UTILS/JRE directory, double-click **j2re-1\_3\_1\_09-windows-i586-i.exe**.
- 4 Follow the on-screen instructions to complete the J2RE installation.

## Installing a supported version of the IBM DB2 database

Unless you are installing SESA in a nonproduction environment, you will install the underlying IBM DB2 database before you run the SESA Installation Wizard.

The SESA Foundation Pack supports a specific set of IBM DB2 databases and FixPaks.

See [“Supported third-party software for the SESA DataStore”](#) on page 223.

---

**Warning:** SESA 2.1 supports IBM DB2 8.1 FixPak 6a only. If you install a later version, such as FixPak 7a, the database installation will not work with SESA 2.1.

---

The information requested in the DB2 installation wizard may differ depending on which DB2 database that you choose to install.

---

**Note:** If you install the IBM DB2 Universal Database Workgroup Server Edition 8.1 that is included on the SESA Foundation Pack 2.1 with SESA DataStore (IBM DB2 for Windows) distribution media, the following restrictions apply:

- It is intended for use with SESA only, and not for use as a general purpose database.
- Its installation is restricted to a single server with a maximum of four processors.
- It is intended for use by a limited number of users, all of whom must be DB2 system administrators.

Symantec does not provide IBM upgrade insurance or other upgrade insurance as part of the SESA Foundation Pack 2.1 with SESA DataStore (IBM DB2 for Windows). To obtain upgrade insurance for any IBM DB2 databases that you use with SESA, you must contact IBM directly.

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### To install IBM DB2 using the IBM DB2 installation wizard

- 1 On the Windows computer on which you want to install the IBM DB2 database, change directories to the IBM DB2 installation media.
- 2 Run the IBM DB2 installation wizard.
- 3 To begin the installation, follow the on-screen instructions.
- 4 When a wizard panel prompts you to select a type of IBM DB2 installation, click **Typical**.  
If you install a compact version, the wizard does not install certain database tools that SESA requires to operate.
- 5 When a wizard panel prompts you to specify a database administrator user name and password, type the user name and password of the DB2 database. This user name and password is the SESA DataStore account.  
See “[Logon accounts for SESA installation](#)” on page 60.
- 6 To complete the software installation and exit the wizard, click **Finish**.
- 7 Restart the computer.  
You must restart the computer to allow the system path to reflect the new DB2 files.

---

**Warning:** If you do not restart the computer, you will not be able to use the SESA DataStore.

---

## Installing an IBM DB2 Runtime Client on a Windows computer

If you are using an IBM DB2 Universal Database server as the SESA DataStore, and are installing it remotely from the SESA Manager, IBM DB2 software requires that an IBM DB2 Runtime Client 8.1 with FixPak 6a be installed on the SESA Manager computer to support the remote database connection.

The IBM DB2 Runtime Client for Windows platforms is available to IBM DB2 Universal Database server users. If it is not included with the SESA Foundation Pack CD set, it can be obtained from the following location:

<http://www-306.ibm.com/software/data/db2/udb/support/downloadv8.html>

The IBM DB2 Runtime Client must be installed on the SESA Manager computer before you install the SESA Manager.

#### To install an IBM DB2 Runtime Client on a Windows computer

- 1 Download the IBM DB2 8.1 FixPak 6a Runtime Client for Windows setup wizard, FP6a\_WR21340\_RTCL.exe, to a temporary directory.
- 2 Run the wizard.
- 3 In the Welcome to the DB2 Setup wizard panel, click **Next**.
- 4 In the License Agreement panel, accept the license agreement, and then click **Next**.
- 5 In the Select the Installation type panel, click **Typical**, and then click **Next**.
- 6 In the Select installation folder panel, do one of the following, and then click **Next**.
  - Confirm the default installation location.
  - Click **Change**, navigate to your preferred location, and then click **OK**.
- 7 If you need to connect to DB2 servers using the NetBIOS protocol, in the Configure NetBIOS panel, do the following:
  - Click Configure NetBIOS for connections to DB2 server, and then type the required information.
- 8 Click **Next**.
- 9 In the Start Copying Files panel, click **Install**.  
Wait while the program installs.
- 10 In the Setup is Complete panel, click **Finish**.
- 11 Restart the computer.  
You must restart the computer to allow the system path to reflect the new DB2 files.

---

**Warning:** If you do not restart the computer, you will not be able to use the SESA DataStore.

---

## Adding an IBM DB2 SESA DataStore to an existing environment

When a SESA Manager is installed and configured to connect to a remote Oracle database and then an IBM DB2 SESA DataStore is added to the environment, you need to do the following:

- Modify the Windows registry to include the IBM DB2 Java file.
- Restart the Apache Tomcat Server.

**To modify the Windows registry to include the IBM DB2 Java file**

- 1 On the computer on which the IBM DB2 Runtime Client is installed, on the Windows taskbar, click **Start > Run**.
- 2 In the Run dialog box, type **Regedit**
- 3 In the Registry Editor window, expand **HKEY\_LOCAL\_MACHINE > SYSTEM > CurrentControlSet > Services > Apache Tomcat > Parameters**.
- 4 In the right pane, double-click **JVM Option Number 0**.
- 5 In the Edit String dialog box, in the Value data box, place your cursor in the path after `\bootstrap.jar`.
- 6 Type: **C:\Program Files\IBM\SqlLib\Java\Db2java.zip**
- 7 Click **OK**.
- 8 Exit the Windows registry.

## Preparing for and installing Oracle 9i on a Windows computer

Oracle 9i must be installed and a supporting database created before you can install the SESA DataStore software.

See [“Installing a SESA DataStore for Oracle 9i on a Windows computer”](#) on page 161.

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**Note:** Symantec does not make available for sale or resale any Oracle product, including Oracle 9i database software. You must purchase the Oracle 9i database software separately if you want to use the database with SESA.

---

You must complete the following tasks to install the Oracle 9i database on Windows:

- [Preparing the Windows environment for Oracle 9i installation](#)
- [Determining whether to install Oracle 9i on a dedicated Windows computer](#)
- [Installing the Oracle 9i database software on Windows](#)
- [Creating one or more Oracle 9i databases for SESA on Windows](#)

Oracle 9i is not included with the SESA Foundation Pack.

The communication between the Oracle 9i database and the SESA Manager is over normal unencrypted SQL\*Net. Therefore, this connection should be on a private network. Access to the SESA DataStore computer should not be available to anyone except authorized users through a firewall.

The procedures for installing Oracle 9i assume that you are an Oracle database administrator or have equivalent knowledge. In addition, you should have access to Oracle technical support.

## Preparing the Windows environment for Oracle 9i installation

The process of creating an Oracle 9i database on Windows requires modifying files located on the SESA Foundation Pack CD1. To do this, you must first copy the image of the SESA Foundation Pack CD1 for Windows to the hard drive of the SESA DataStore computer. You should ensure that the files, once copied, are not changed to read-only.

## Determining whether to install Oracle 9i on a dedicated Windows computer

When you install Oracle 9i on Windows as the underlying database for one or more SESA DataStores, the Oracle 9i software can be installed on a dedicated Windows computer or co-located with other applications and other SESA components.

You can co-locate Oracle 9i with all three SESA components on a single Windows computer (an all-in-one installation). However, this type of installation is impractical for almost every SESA environment except those that handle only the smallest volumes of data.

More typically, in SESA environments that must handle medium or high data volumes, the Oracle 9i database and SESA DataStore should be installed on a dedicated Windows computer. This way, the Oracle 9i database does not have to share CPU resources with other applications or SESA components. If the Oracle 9i database must be installed with another SESA component, consider installing it with the SESA Directory. Of the three SESA components (SESA Directory, SESA DataStore, and SESA Manager), the SESA Directory is the least resource-intensive.

## Installing the Oracle 9i database software on Windows

Before the script that SESA uses to create a SESA DataStore database can be run, you must install the Oracle 9i software. The procedures for installing Oracle 9i vary by environment. The following guidelines help you to prepare your Oracle 9i installation on Windows so that it is compatible with SESA. See your Oracle database administrator or the Oracle 9i product documentation for more information.

Use the following guidelines when installing Oracle 9i on Windows:

ORACLE_HOME	<p>The default location for ORACLE_HOME in SESA is c:\oracle\ora92. The default Oracle install uses d:\oracle\ora92 as ORACLE_HOME. These two must match. You must either change ORACLE_HOME to c:\oracle\ora92 during the install, or modify the SESA database creation script, create.bat, later.</p> <p>Also, ensure that your ORACLE_HOME location has enough free disk space to install the Oracle 9i program files.</p>
Install Type	Custom
Available Components	<p>The following components conflict with SESA and should not be installed:</p> <ul style="list-style-type: none"><li>■ Enterprise Manager Web Site 9.2.0.1.0</li><li>■ Oracle Management Server 9.2.0.1.0</li><li>■ Oracle HTTP Server 9.2.0.1.0</li></ul>
Create a Database?	No
Oracle Net Configuration	Typical

Once the initial Oracle 9i completes successfully, ensure that you update Oracle 9i with the latest cluster patch (9.2.0.4 or later).

## Creating one or more Oracle 9i databases for SESA on Windows

SESA 2.1 provides a new Oracle Installation script for Windows, create.bat, that you use to create an Oracle 9i database to be used as the SESA DataStore. You must create a separate Oracle database for each SESA DataStore that you plan to use. The databases must be created prior to running the SESA Installation Wizard to install the SESA DataStore software.

The create.bat file creates the database configuration files and the SQL script used to create the SESA database. By default, create.bat runs the database creation script automatically.

Once the initial SESA database is created, you can create as many databases as are necessary by editing create.bat and running it again for each additional SESA database.

See [“Creating additional databases to support multiple SESA DataStores on Windows”](#) on page 91.

To create one or more Oracle 9i SESA databases you must complete the following tasks for each database in the order they are presented:

- [Editing and running the create.bat script on Windows](#)
- [Turning on redo log archival for Oracle on Windows](#)

## Editing and running the create.bat script on Windows

The create.bat script is used to create the files needed to create an Oracle database that can be used as a SESA DataStore. By default the create.bat script installs and runs the files it creates.

Running the create.bat script creates the following files:

create.sql	A SQL script used to create the <DBNAME> database to be used as a SESA DataStore.
init<DBNAME>.ora	The configuration file containing all of the initialization parameters for the <DBNAME> database.
listener.ora	The configuration file for the Oracle listener that makes the database available over the network to the SESA Manager and other clients.
tnsnames.ora	A sample tnsnames file that can be used by Oracle clients, such as SQL*Plus, to connect remotely. This file is not used by the SESA Manager.
recreate.sql	A SQL script that can be run manually to drop and recreate the SYMCMGMT database user without having to drop and recreate the entire database.

You may want to change the RUN\_SCRIPTS default value to false, so that the generated files are not run automatically. The user can then edit the generated scripts to create Oracle configurations that take full advantage of the hardware and provide for higher availability.

In the most simple case, you can run the create.bat without modification to create an Oracle database named SESA. After changing the database name parameter, the script can be run again to create additional databases as needed to support multiple SESA DataStores.

There are many parameters and possible configurations that you can use to create an Oracle database. To reduce the complexity, at the beginning of the create.bat file, the parameters that users are most likely to change are presented as batch file variables with default values that can be edited.

### To edit and run the create.bat script on Windows

- 1 Navigate to the location of the SESA Foundation Pack CD1 image on the SESA DataStore computer, and then open the \ORACLE folder.
- 2 In a text editor, open the create.bat file, and then modify it as necessary. Use the following guidelines:

RUN_SCRIPTS	<p>Default = true</p> <p>Set to false if you do not want the create.bat file to install the database configuration files and run the database creation script it generates. Setting this parameter to false allows advanced users to edit the generated files before running them manually.</p>
DBVERSION	<p>Default = 9.2.0.1.0</p>
ORACLE_HOME	<p>Default = c:\oracle\ora92</p> <p>Set to the value that matches the value used in the ORACLE_HOME path used when installing the Oracle 9i software.</p>
JAVA	<p>Default = %ORACLE_HOME%\jdk\bin\java -cp .</p> <p>Set to the location of the Java executable used by Oracle.</p> <p>By default, the Oracle 9i installation also installs its own version of Java. If your Oracle 9i installation does not use the default Oracle version of Java, replace the default path with the path to the Java version used by your Oracle installation.</p>
DBNAME	<p>Default = SESA</p> <p>Set to the database name.</p> <p>If you are installing multiple databases to support multiple SESA DataStores, you must change this parameter each time you run create.sh so that each database has a different name.</p>
BLOCKSIZE	<p>Default = 16384</p> <p>Set to 32768 for 64-bit Oracle and 16384 for 32-bit Oracle.</p>

CACHESIZE	<p>Default = 300000000</p> <p>Set to the amount of physical memory (in bytes) reserved by Oracle for database caching. This amount is reserved for each database you create on the same computer</p> <p><math>CACHESIZE + PGA\_AGG + 100M</math> = the total amount of physical memory reserved by Oracle for each database you create on the same computer. You must ensure that these parameters are set so that amount of memory reserved by Oracle plus the amount required by the operating system plus the amount required by any other programs, does not exceed the amount of physical memory installed on the computer.</p>
PGA_AGG	<p>Default = 200000000</p> <p>Set to the amount of physical memory (in bytes) reserved by Oracle for database sorts and joins. This amount is reserved for each database you create on the same computer</p> <p><math>CACHESIZE + PGA\_AGG + 100M</math> = the total amount of physical memory reserved by Oracle for each database you create on the same computer. You must ensure that these parameters are set so that amount of memory reserved by Oracle plus the amount required by the operating system plus the amount required by any other programs, does not exceed the amount of physical memory installed on the computer.</p>
TIMEZONE	<p>Default = America/Los_Angeles</p> <p>Set to the local timezone. See your Oracle documentation for a list of possible timezone values.</p>

The following script variables are included for completeness. They should not have to be changed under normal circumstances.

U01DATA	Default = c:\oracle\oradata\%DBNAME%
U02DATA	Default = c:\oracle\oradata\%DBNAME%
ADMIN	Default = c:\oracle\admin\%DBNAME%
USERBASE	<p>Default = %U01DATA%\sesa32kuserbase01.dbf</p> <p>Most of the SESA event data is stored in USERBASE and USEROTH. Ensure that the specified location has enough available disk space to support your event volume.</p>
USEROTH	<p>Default = %U01DATA%\sesa32kuseroth01.dbf</p> <p>Most of the SESA event data is stored in USERBASE and USEROTH. Ensure that the specified location has enough available disk space to support your event volume.</p>



USERDEF	Default = %U01DATA%\sesa32kuserdef01.dbf
SESATEMP	Default = %U01DATA%\sesa32ktemp space01.dbf
USERBASE_SIZE	Default = 1000M
USEROTH_SIZE	Default = 1000M
USERDEF_SIZE	Default = 100M
SESATEMP_SIZE	Default = 1000M
CONTROL1	Default = %U01DATA%\control01.ctl
CONTROL2	Default = %U02DATA%\control02.ctl
CONTROL3	Default = %U01DATA%\control03.ctl
REDO1	Default = %U02DATA%\redo01.log
REDO2	Default = %U02DATA%\redo02.log
SYSTEM	Default = %U01DATA%\system01.dbf
SYSTEMP	Default = %U01DATA%\temp01.dbf
UNDO	Default = %U01DATA%\undotbs01.dbf
BDUMP	Default = %ADMIN%\bdump
CDUMP	Default = %ADMIN%\cdump
UDUMP	Default = %ADMIN%\udump
ARCHIVEDEST	Default = %U01DATA%\arch
RDBMSADMIN	Default = %ORACLE_HOME%\rdbms\admin
SQLPLUSADMIN	Default = %ORACLE_HOME%\sqlplus\admin

**3** Save and close the create.bat file.

**4** Type the following command to run the create.bat file:

**create.bat**

The database creation files are generated. If RUN\_SCRIPTS = true, then the generated files are run immediately to create a database; otherwise, you must run them manually. When run, either automatically or manually, the database creation SQL script (create.sql) prompts you to enter passwords for specific administrative database users.

- 5 When prompted, type the passwords for SYCMGMT, SYSTEM, and SYS. Wait while the SESA database is created. Depending on the speed of your computer, creating a SESA database can take a long time. When the database is successfully created, the script returns:  
`Database creation complete.`

## Turning on redo log archival for Oracle on Windows

You can turn on redo log archival so that you can reapply changes that are made to your database after a specific backup point. Turning on redo log archival results in slower database performance.

To turn on redo log archival on an Oracle database that supports a SESA DataStore, you must complete the following tasks:

- Modify the init<DBNAME>.ora file.
- Shut down and restart the <DBNAME> Oracle database that supports the SESA DataStore.
- Change the <DBNAME> Oracle database to turn on redo log archival.

In the following procedures replace the variable <DBNAME> with the name of the database for which you are turning on redo log archival.

### To modify the init<DBNAME>.ora file

- 1 In a text editor, open the init<DBNAME>.ora file, then remove the pound characters (#) from the following lines:  
`# log_archive_start=true`  
`# log_archive_dest_1='location={ARCHIVEDEST}'`
- 2 Save and close the init<DBNAME>.ora file.
- 3 Verify that the archive directory (c:\oracle\oradata\<DBNAME>\arch) exists. If it does not, you must create it.

### To shut down and restart the Oracle database that supports the SESA DataStore

- 1 At the command prompt, type the following command to launch SQL\*Plus:  
`sqlplus /nolog`
- 2 At the SQL\*Plus prompt, type the following commands:  
`connect / as sysdba`  
`shutdown immediate`  
`startup mount`

### To change the Oracle database to turn on redo log archival

- 1 Open a Terminal window to the SESA DataStore computer, become Oracle user, and then type the following command to launch SQL\*Plus:  
`sqlplus /nolog`
- 2 At the SQL\*Plus prompt, type the following commands:  
`alter database archivelog;`  
`alter database open;`
- 3 Type the following command to verify that you turned on archive mode successfully and generate a brief report about the archive mode:  
`archive log list`

## Creating additional databases to support multiple SESA DataStores on Windows

In SESA 2.1, you create additional databases to support multiple SESA DataStores in exactly the same way as you create the initial supporting database. You can create as many databases as your system can support. When you create additional databases, you must ensure that the names of the databases used by SESA are all different.

### To add an additional database

- 1 In a text editor, open the \ORACLE\create.bat file.
- 2 Change the value of DBNAME to an unused value.  
 When using multiple SESA DataStores, each supporting database within the SESA system must have a different name.
- 3 Make any additional changes to create.bat that are required to create this database.  
 See [“Editing and running the create.bat script on Windows”](#) on page 86.
- 4 Save and close the create.bat file.
- 5 Type the following command to run the create.bat file:

`create.bat`

The database creation files are generated. If RUN\_SCRIPTS = true, then the generated files are run immediately to create a database; otherwise, you must run them manually. When run, either automatically or manually, the database creation SQL script (create.sql) prompts you to enter passwords for certain administrative database users.

- 6 When prompted, type the passwords for SYCMGMT, SYSTEM, and SYS. Wait while the SESA database is created. Depending on the speed of your computer, creating a SESA database can take a long time. When the database is successfully created, the script returns:  
`Database creation complete.`

## Installing IBM Tivoli Directory Server on Windows

When you install a SESA Directory with the SESA Installation Wizard, the Wizard automatically installs the supported version of IBM Tivoli Directory Server on Windows or Solaris as the underlying software, or middleware, for the SESA Directory.

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**Warning:** Before you install or IBM Tivoli Directory Server 5.2, ensure that your screen resolution is set at or below 1024 x 768 with 16-bit color. If screen resolution is set to 1280 x 1024 with 32-bit color, the installation may fail because screen resolution and color display are set too high.

---

If you are installing the IBM Tivoli Directory server without using the wizard, you must perform the following tasks:

Create an internal IBM Directory Server account.	Before you can use the IBM Tivoli Directory Server Configuration Tool, which is the second part of installing the IBM Directory Server, you must first create an internal account for the Directory Server, and then add the account to the Administrator Group in Windows. The IBM Directory Server Configuration Tool prompts you for the user name and password of this account.
--	---

If you were to install the IBM Directory Server middleware through the SESA Installation Wizard (as is the case with version 4.1.1 of the Directory Server), the installation program would automatically create this internal account for the Directory Server. The SESA installation program assigns this account a user ID of SESLDAP and a random password.

When you manually install the IBM Tivoli Directory Server 5.2 version of IBM Directory Server, you can choose the name and password that you want for the internal account. Regardless of how the account is created, you can always change the password later.

For more information on changing the internal IBM Directory Server account password, see the *Symantec Enterprise Security Architecture Administrator's Guide*.

Install the IBM Tivoli Directory Server 5.2 software.	You install the software with the IBM Directory Server Installation Wizard. The Wizard installs the IBM Tivoli Directory Server 5.2 middleware and an IBM DB2 database server for use as the repository for Directory Server data. The Wizard then restarts the computer and launches the IBM Directory Server Configuration Tool.
Configure the IBM Directory Server.	<p>After installing the IBM Tivoli Directory Server 5.2 for use as the middleware for the SESA Directory, you must use the IBM Directory Server Configuration Tool to install an IBM DB2 database instance for the database server and to specify the following:</p> <ul style="list-style-type: none"> <li>■ Administrator DN and password for the Directory Server  You will need to specify the Directory administrator DN and password again when you use the SESA Installation Wizard to install the SESA Directory. In the SESA environment, this user ID and password are known as the SESA Directory account.  See <a href="#">“Logon accounts for SESA installation”</a> on page 60.</li> <li>■ User ID and password for an internal IBM Directory Server account  The user ID should be 8 characters or less. The IBM Directory Server Configuration Tool creates a DB2 instance based on this name.</li> </ul>

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**Note:** If you have trouble installing from a network share or a staging area on a local drive, verify that there are no embedded spaces in the source path. If the path is correct and you are still having trouble, try installing the software from a CD.

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#### To create an internal IBM Directory Server user

- 1 On the Windows computer on which you want to install the SESA Directory, on the Windows taskbar, click **Start > Control Panel**.
- 2 In the Control Panel, double-click **Administrative Tools**.
- 3 In the Administrative Tools window, double-click **Computer Management**.
- 4 In the Computer Management window, in the left pane, expand **Local Users and Groups**.
- 5 Under Local Users and Groups, right-click **Users**, and then click **New User**.
- 6 In the New User dialog, type the user name and password for the internal IBM Directory Server account.

- 7 To change any password expiration conditions, uncheck or check the appropriate check box or check boxes.
- 8 In the right pane, double-click **Administrators**.
- 9 Click **Create**, and then click **Close**.
- 10 In the Computer Management window, in the left pane, under Local Users and Groups, click **Groups**.
- 11 In the right pane, double-click **Administrators**.
- 12 In the Administrators Properties dialog box, click **Add**.
- 13 Under Name, select the user name that you specified in step 6.  
This is the internal IBM Directory Server account. In cases in which the SESA Installation Wizard creates this account, the user ID is SESLDAP and the password is randomly generated. Regardless of how the account was generated, you can change the password after creation.  
For more information on changing the internal IBM Directory Server password, see the *Symantec Enterprise Security Architecture Administrator's Guide*.
- 14 Click **Add**, and then click **OK**.
- 15 In the Administrator Properties dialog box, click **Apply**, and then click **Close**.

#### To install IBM Tivoli Directory Server 5.2

- 1 On the Windows computer on which you want to install IBM Tivoli Directory Server 5.2, insert the IBM Tivoli Directory Server 5.2 CD into the CD-ROM drive.  
The IBM Directory Server Installation Wizard starts.
- 2 In the IBM Directory Server Installation Wizard, follow the on-screen instructions.
- 3 When a panel prompts you to enter the user ID and password for the IBM DB2 system ID, type a user name and password to use as the database administrator account for the IBM DB2 repository database used by the IBM Directory Server.  
If you plan to install a SESA DataStore on the same computer as the IBM Directory Server (SESA Directory), you must also use this same user ID and password in the SESA Installation Wizard. During SESA DataStore installation, SESA requires this user ID and password for the SESA DataStore account.  
See [“Logon accounts for SESA installation”](#) on page 60.

- 4 When a panel prompts you to restart the computer, click **Finish** to restart the computer and launch the IBM Directory Server Configuration Tool.

#### **To configure IBM Tivoli Directory Server 5.2**

- 1 On the computer on which IBM Tivoli Directory Server 5.2 is installed, wait until the computer restarts and displays the IBM Directory Server Configuration Tool window, then in the IBM Directory Server Configuration Tool window, in the left pane, click **Administrator DN/Password**. This is the SESA Directory account that the SESA Installation Wizard will prompt you for during SESA Directory installation. See [“Logon accounts for SESA installation”](#) on page 60.
- 2 In the right pane, type the user ID and password for the SESA Directory account.
- 3 Click **OK**.
- 4 In the left pane, click **Configure database**.
- 5 In the right pane, click **Create a new database**, and then click **Next**.
- 6 Type a user ID and password for the internal account that will allow the IBM Directory Server to add, modify, and retrieve data from the IBM DB2 database repository.
- 7 Click **Next**.
- 8 Type the name of the IBM DB2 database instance that the IBM Directory Server will use as its repository, and then click **Next**.
- 9 Click **Create a universal DB2 database (UTF-8/UCS-2)**, and then click **Next**.
- 10 Under Database location, select the drive on which the database will be installed, and then click **Next**.
- 11 Verify that the settings listed are correct, and then click **Finish**.
- 12 Wait until the database is created and the Close button is enabled, and then click **Close**.





# Installing third-party software on Solaris computers

This chapter includes the following topics:

- [Determining which third-party software to install on Solaris computers](#)
- [Installing Solaris 8](#)
- [Installing the Java Software Development Kit on Solaris computers](#)
- [Installing IBM DB2 Enterprise Edition on a Solaris computer](#)
- [Preparing for and installing Oracle 9i on a Solaris computer](#)
- [Installing an IBM DB2 Runtime Client on a Solaris computer](#)
- [Connecting to a remote Solaris computer and exporting its display](#)

## Determining which third-party software to install on Solaris computers

The third-party software that you install depends on the SESA components that run on the computer. If more than one SESA component runs on a single computer, install the third-party software required by each SESA component on that computer. However, if more than one SESA component on a single computer requires the same third-party software, you need only install the third-party software once on that computer.

**Note:** The Java Runtime Environment (J2RE) 1.3.1\_09 and J2RE 1.4.2\_02 are considered different third-party software components and both must be installed on a Solaris computer that runs the SESA Agent in addition to the Symantec management console.

Table 5-1 lists the third-party software that you must install prior to installing SESA. Except as noted, all the required third-party software is included with the SESA Foundation Packs.

**Table 5-1** Third-party software required on Solaris computers running SESA components

SESA component	Third-party software to install
All computers running SESA components	<ul style="list-style-type: none"><li>■ Solaris 8 with the latest cluster patch. Solaris 8 is not included with the SESA Foundation Pack. See <a href="#">“Installing Solaris 8”</a> on page 100.</li></ul>
SESA Directory computer	<ul style="list-style-type: none"><li>■ IBM DB2 8.1 Enterprise Edition with FixPak 6a. IBM DB2 8.1 Enterprise Edition is provided for use with the SESA Directory only. See <a href="#">“Installing IBM DB2 Enterprise Edition on a Solaris computer”</a> on page 108. You can also install other supported versions of IBM DB2 8.1. These other versions are not included with the SESA Foundation Pack. See <a href="#">“Supported third-party software for the SESA Directory”</a> on page 220.</li><li>■ J2RE 1.3.1_09. See <a href="#">“Installing the Java Runtime Environment on Solaris or Linux computers”</a> on page 106.</li></ul>
SESA DataStore computer	<ul style="list-style-type: none"><li>■ Oracle 9i. Oracle 9i is not included with the SESA Foundation Pack. See <a href="#">“Preparing for and installing Oracle 9i on a Solaris computer”</a> on page 112.</li><li>■ J2RE 1.3.1_09 See <a href="#">“Installing the Java Runtime Environment on Solaris or Linux computers”</a> on page 106.</li></ul>

**Table 5-1** Third-party software required on Solaris computers running SESA components

SESA component	Third-party software to install
SESA Manager computer	<ul style="list-style-type: none"> <li>■ Java Software Development Kit (SDK) 1.3.1_09 (includes the J2RE). See <a href="#">“Installing the Java Software Development Kit on Solaris computers”</a> on page 105.</li> <li>■ (If necessary) IBM DB2 8.1 Runtime Client with FixPak 6a. Required if the SESA Manager connects to a IBM DB2 DataStore on a Windows computer. The IBM DB2 Runtime Client software is not included with the SESA Foundation Pack. See <a href="#">“Installing an IBM DB2 Runtime Client on a Solaris computer”</a> on page 126.</li></ul>
Symantec management console computer	<ul style="list-style-type: none"> <li>■ J2RE 1.4.2_02. See <a href="#">“Installing the Java Runtime Environment on Solaris or Linux computers”</a> on page 106.</li> <li>■ Mozilla 1.7.2 (with required Solaris patches and packages). See <a href="#">“Preparing a Solaris computer to run the Symantec management console”</a> on page 128.</li></ul>

# Installing Solaris 8

The procedures for installing Solaris 8 vary by environment. The following procedures are intended as guidelines only. See your Solaris 8 product documentation or ask your UNIX administrator for more information.

## Packages that are required to export the SESA GUI to a remote computer

Exporting the SESA graphical user interface (GUI) is required when you are running the SESA Installation Wizard from a computer other than the one on which you are installing SESA components. Some Solaris 8 installations (for example, core only installations) do not install all the required packages needed to support exporting the GUI to another computer. In such cases, you must install the missing Solaris 8 packages in order to install SESA.

Ensure that the following packages are installed:

SUNWadmr	SUNWdtcor	SUNWlibm	SUNWpiclx	SUNWudfrx
SUNWarc	SUNWdtct	SUNWlibms	SUNWpl5u	SUNWuiu8
SUNWarcx	SUNWeridx	SUNWlmsx	SUNWqfed	SUNWusb
SUNWatfsr	SUNWesu	SUNWloc	SUNWqfedx	SUNWusbx
SUNWatfsu	SUNWfcip	SUNWlocx	SUNWrmodu	SUNWvolr
SUNWauda	SUNWfcipx	SUNWluxdx	SUNWscpu	SUNWvolu
SUNWaudd	SUNWfcp	SUNWluxop	SUNWses	SUNWvolux
SUNWauddx	SUNWfcpx	SUNWluxox	SUNWsesx	SUNWwsr2
SUNWbtool	SUNWfctl	SUNWm64	SUNWsndmr	SUNWxcu4
SUNWbzip	SUNWfctlx	SUNWm64x	SUNWsndmu	SUNWxildh
SUNWcar	SUNWftpr	SUNWmdi	SUNWsolnm	SUNWxilow
SUNWcarx	SUNWftpu	SUNWmdix	SUNWsprot	SUNWxilr1
SUNWced	SUNWged	SUNWmfrun	SUNWsprox	SUNWxwdv
SUNWcedx	SUNWhea	SUNWnamdt	SUNWssad	SUNWxwdvx
SUNWcg6	SUNWhmd	SUNWnamos	SUNWssadx	SUNWxwfmt
SUNWcg6x	SUNWhmdx	SUNWnamow	SUNWswmt	SUNWxwice
SUNWcsd	SUNWilof	SUNWnamox	SUNWtltk	SUNWxwicx
SUNWcsl	SUNWjvrt	SUNWnisr	SUNWtoo	SUNWxwmod
SUNWcslx	SUNWkey	SUNWnisu	SUNWtoox	SUNWxwmox
SUNWcsr	SUNWkvm	SUNWpd	SUNWuad	SUNWxwplt
SUNWcsu	SUNWkvmx	SUNWpdx	SUNWuadx	SUNWxwplx
SUNWcsxu	SUNWlibc	SUNWpiclr	SUNWudf	SUNWxwrtl
SUNWctpls	SUNWlibCx	SUNWpiclu	SUNWudfr	SUNWxwrtx
SUNWdfb				

## Installing Solaris 8 from the CD

If you are doing a core-only Solaris 8 installation, Exporting the SESA GUI is required when you are running the SESA Installation Wizard from a computer other than the one on which you are installing components

### To install Solaris 8 from a CD

- 1 Turn on the computer and insert the Solaris 8 software 1 of 2 disk.  
If necessary, press **STOP+a** to stop the computer from launching a pre-installed version of the operating system.

- 2 At the ok prompt, type the following command:

```
boot cdrom
```

- 3 When prompted, type or select the following information:

Language	<b>English</b>
Locale	<b>en_US ISO8859-1</b>
Networked	<b>Yes</b>
Use DHCP	<b>No</b>
Host Name	User choice  You should not use a mixed-case machine name, as UNIX is case-sensitive.
IP Address	The static IP address of the computer  You must use a static IP address or SESA will not install properly. Obtain a static IP address from your network administrator.
Part of subnet	<b>Yes</b>
Subnet mask	The subnet mask for this computer (for example, 255.255.255.0)
Enable IPv6	<b>No</b>
Enable Kerberos Security	<b>No</b>
Name service	<b>DNS</b>
Domain name	The fully qualified domain name for this computer (for example, corp.symantec.com)
DNS servers	The IP address of the Domain Name Service (DNS) servers for this computer

DNS Search List	Specify only if required See your network administrator for more information.
New name service	<b>No</b>
Time Zone	<b>Geographic region</b>
Geographic Region	Your time zone (for example, United States - Pacific)
Date and Time	The current local date and time

- 4
- In the summary window, verify that the information that you entered is correct, and then click **Continue**.
- 5
- In the Solaris Interactive Installation window, click **Initial**, and then click **Next**.
- 6
- When prompted, type or select the following information:

Geographic Regions	Default (Partial North America) or as needed
Software	<b>Entire Distribution plus OEM support</b>  If you are doing a core only installation, be sure to also install the packages that are required to support the SESA GUI.  <a href="#">See “Packages that are required to export the SESA GUI to a remote computer” on page 100.</a>
Disks	The boot disk (for example, c0t0d0)
Preserve Data	<b>Continue</b>  This erases any existing files.
Automatically Layout File Systems	<b>Auto Layout</b>
File System and Disk Layout	<b>Customize...</b>

**Customize Disks**    The sizes for the operating system directories that are required for your computer

The minimum required directories are swap and root. A swap directory should be twice the maximum amount of memory that can be installed in the computer. For nonproduction computers, the balance of the disk space can be allocated to the root directory.

Ask your UNIX administrator for advice on the optimal layout.

**Mount remote?**    **Continue**

- 7 In the summary window, verify that the information that you entered is correct, and then click **Begin Installation**.
- 8 Click **Auto Reboot**.  
The operating system is copied to your computer.
- 9 Type the password for root access.
- 10 When prompted for the media type, click **CD/DVD**, and then click **Next**.
- 11 Insert the Solaris Software disk 2 of 2, and then click **OK**.
- 12 After the Solaris Software disk 2 of 2 files are copied to your computer, click **Next**.
- 13 If you are installing additional languages, do the following in the order listed:
  - When prompted for the media type, click **CD/DVD**, click **Next**, insert the Solaris 8 Languages disk, and then click **OK**.
  - Verify the languages to be installed, and then click **Install Now**.
  - After the Solaris 8 Languages files are copied to your computer, in the Installation Summary window for Languages, verify that the languages installed successfully, and then click **Next**.
- 14 Click **Reboot Now**.

## Solaris 8 post-installation tasks

After the basic Solaris 8 installation completes, you must perform the following post-installation tasks:

- Create the defaultrouter file.
- Apply the required Solaris 8 patches.

#### To create the defaultrouter file

- 1 Open a Terminal window and become superuser.
- 2 In a text editor, create a file named `etc/defaultrouter`.
- 3 In the `etc/defaultrouter` file, type the IP address of the default gateway for your computer.
- 4 Save and close the file.
- 5 Verify that the `etc/resolv.conf` file exists and contains the correct domain name server information.  
If it does not, use a text editor to create the file. Use the following as a model:  

```
domain <your fully qualified domain>
nameserver <IP address of the first DNS server>
nameserver <IP address of the second DNS server>
hostresorder local bind
```
- 6 Save and close the file.
- 7 Restart your computer.

#### To apply the required Solaris 8 patches

- 1 On the Internet, go to [sunsolve.sun.com](http://sunsolve.sun.com)
- 2 Under Sun Solve Patch Contents, click **Patch Portal**.
- 3 Under Downloads, click **Recommended Patch Clusters**.
- 4 In the Recommended Solaris Patch Clusters and J2SE Clusters box, click **8** (not 8 x86).
- 5 Click one of the following:
  - Download by HTTP
  - Download by FTP
- 6 Click **Go**.
- 7 Type the location on your computer to which you would like the patch copied.  
For example, `/opt/tmp/8_Recommended.zip`.  
The patch may take a long time to download depending on the speed of your Internet connection.
- 8 Go to the location of the patch file, and then type the following command to decompress the patch:  

```
unzip 8_Recommended.zip
```



- 9 Change to the 8\_Recommended directory, and then type the following command to run the patch:  

```
./install_cluster
```

This step may take longer than the initial OS install. Ignore any Return code 2 or 8 errors that are generated.
- 10 Restart your computer.

## Installing the Java Software Development Kit on Solaris computers

SESA requires the Java Software Development Kit (SDK) version 1.3.1\_09 (program files only) or later. You must install the SDK on a SESA Manager computer. Other SESA components require only the Java Runtime Environment (J2RE). However, you may want to consider installing the SDK on all SESA component computers, because the JDK installation also installs J2RE.

### To install the Java Software Development Kit (SDK) on a Solaris computer

- 1 Ensure that a local copy of the SESA Foundation Pack distribution media (including the SDK) has been copied to the SESA component computer and that the Solaris computer at which you are physically located has access to the SESA component computer.  
See [“Copying the SESA Foundation Pack CDs to a Solaris staging area”](#) on page 57.
- 2 Open a Terminal window to the Solaris computer on which you want to install the SDK and become superuser.  
See [“Connecting to a remote Solaris computer and exporting its display”](#) on page 130.  
You do not need to export a display.
- 3 Type the following command to change to the /usr directory:  

```
cd /usr
```
- 4 Type the following command to grant executable privileges to the SDK installer:  

```
chmod 700 /u01/Solaris.CD1/UTILS/JDK/j2sdk-1_3_1_09-solaris-sparc.sh
```

/u01 is the default staging area for the SESA CD images. If you copied your installation CDs to a different location, replace the default with your alternate location.
- 5 Type the following command to run the SDK installer:  

```
/u01/Solaris.CD1/UTILS/JDK/j2sdk-1_3_1_09-solaris-sparc.sh
```

- 6 Follow the on-screen instructions to install the Java files.
- 7 Type the following command to rename any older SDK files that currently reside on the Solaris computer:

```
mv java java.old
```

- 8 Type the following command to create a link to the new Java version:  

```
ln -s ./j2sdk1_3_1_09 java
```
- 9 Type the following command to confirm that the link is working correctly:

```
which java
```

The computer should respond with the following path information:

```
usr/bin/java
```

- 10 Type the following command to confirm that the correct Java version was installed:

```
java -version
```

The command returns the following information:

```
java version "1.3.1_09"
```

```
Java(TM) 2 Runtime Environment, Standard Edition
```

```
(build 1.3.1_09-b03)
```

```
Java HotSpot(TM) Client VM (build 1.3.1_09-b03, mixed mode)
```

## Installing the Java Runtime Environment on Solaris or Linux computers

All Solaris computers that run SESA components require the Java Runtime Environment (J2RE). The J2RE is included in the SDK so that when you install the SDK, the J2RE is also installed. You can also install the J2RE without the accompanying SDK files. You need to do this when you install the SESA Agent on a different computer from the SESA Manager computer. You must also install a version of the J2RE on Solaris computers which run the Symantec management console.

The version of the J2RE that you install depends on the Symantec security products that the computers run. Solaris computers that run SESA components and Linux computers that run the Symantec management console require J2RE 1.3.1\_09 or later. Solaris computers that run the Symantec management console require J2RE 1.4.2\_02. Solaris computers that run SESA components and the Symantec management console require that both versions of the J2RE be installed.

The J2RE versions 1.3.1\_09 and 1.4.2\_02 are located on the SESA Foundation Pack Windows CD1 in the UTILS/JRE directory.

The installation procedure for either version of J2RE is the same. However, the directory to which you install the J2RE depends on which J2RE version you install. J2RE 1.3.1\_09 is installed to /usr, while J2RE 1.4.2\_02 is installed to /opt.

### To install the J2RE 1.3.1\_09 on a Solaris or Linux computer

- 1 Ensure that a local copy of the SESA Foundation Pack distribution media (including the J2RE) has been copied to the SESA component computer and that the Solaris computer at which you are physically located has access to the SESA component computer.
- 2 Open a Terminal window to the Solaris or Linux computer on which you want to install the J2RE and become superuser.  
See [“Connecting to a remote Solaris computer and exporting its display”](#) on page 130.  
You do not need to export a display.
- 3 Type the following command to change to the /usr directory:  

```
cd /usr
```
- 4 Type the following command to grant executable privileges to the J2RE installer:  

```
chmod 700 /u01/Solaris.CD1/UTILS/JRE/j2re-1_3_1_09-solaris-sparc.sh
```

  
/u01 is the default staging area for the SESA CD images. If you copied your installation CDs to a different location, replace the default with your alternate location.
- 5 To run the J2RE installer, type the following command:  

```
/u01/Solaris.CD1/UTILS/JRE/j2re-1_3_1_09-solaris-sparc.sh
```
- 6 Follow the on-screen instructions to install the Java Runtime Environment.
- 7 Type the following command to rename any older J2RE files that currently reside on the Solaris computer:  

```
mv java java.old
```
- 8 Type the following command to create a link to the new Java version:  

```
ln -s ./j2re1_3_1_09 java
```
- 9 Type the following command to confirm that the link is working correctly:  

```
which java
```

  
The computer should respond with the following path information:  

```
usr/bin/java
```

- 10 Type the following command to confirm that the correct Java version was installed:

```
java -version
```

The command returns the following information:

```
java version "1.3.1_09"  
Java(TM) 2 Runtime Environment, Standard Edition  
  (build 1.3.1_09-b03)  
Java HotSpot(TM) Client VM (build 1.3.1_09-b03, mixed mode)
```

## Installing IBM DB2 Enterprise Edition on a Solaris computer

You must install IBM DB2 8.1 Workgroup or Enterprise Edition on the Solaris SESA Directory computer before you install the SESA Directory (IBM Tivoli Directory Server 5.2). The SESA Foundation Pack Solaris CD2 includes a version of IBM DB2 Enterprise Edition 8.1 that is intended to support IBM Tivoli Directory Server 5.2.

---

**Warning:** The IBM DB2 Enterprise Edition 8.1 provided with the SESA Foundation Pack is a restricted version. It is only intended for use with the SESA Directory and does not serve as an IBM DB2 database for the SESA Datastore. If you attempt to install the SESA DataStore using this edition of the IBM DB2 Universal Database, your SESA DataStore installation will fail.

---

To install IBM DB2 Enterprise Edition with FixPak 2, you must complete the following tasks:

- Append IBM DB2 kernel parameters to the `/etc/system` file.
- Run the IBM DB2 Enterprise Edition installation script.
- Download and apply FixPak 6a for IBM DB2 8.1.
- Add superuser to the `dbsysadm` group.
- Update the IBM DB2 license key.

---

**Note:** If you are using the SESA CD set to install IBM DB2 on a Solaris computer, you must manually update the license key that is installed by default. The correct key is included on the CD, but it is not installed by the installation wizard.

---

**To append IBM DB2 kernel parameters to the /etc/system file on the SESA Directory computer**

- 1 Open a terminal window to the SESA Directory computer and become superuser.  
See [“Connecting to a remote Solaris computer and exporting its display”](#) on page 130.

- 2 In a text editor, open the /etc/system file and append the following lines:

```
*db2 kernel parameters
set msgsys:msginfo_msgmax = 65535
set msgsys:msginfo_msgmnb = 65535
set msgsys:msginfo_msgmap = 258
set msgsys:msginfo_msgmni = 256
set msgsys:msginfo_msgssz = 16
set msgsys:msginfo_msgtql = 1024
set msgsys:msginfo_msgseg = 32767
set shmsys:shminfo_shmmax = 536870912
set shmsys:shminfo_shmseg = 50
set shmsys:shminfo_shmmni = 300
set semsys:seminfo_semmni = 1024
set semsys:seminfo_semmap = 1026
set semsys:seminfo_semmns = 2048
set semsys:seminfo_semmnu = 2048
set semsys:seminfo_semume = 50
```

- 3 Modify the values of the IBM DB2 kernel parameters as necessary. Use the following guidelines:

msgsys:msginfo\_msgmax 65,535 or greater

msgsys:msginfo\_msgmnb

msgsys:msginfo\_msgseg 32,767 or lower

shmsys:shminfo\_shmmax 536870912 or 90% of the physical memory (in bytes) of the SESA Directory computer, whichever is higher. For example, if the SESA Directory computer has 2 GB of physical memory, set the shmsys:shminfo\_shmmax parameter to 1,932,735,283 (2048\*1024\*1024\*0.9).

Limited to 4 GB for 32-bit systems

- 4 Save and close the /etc/system file.
- 5 Restart the SESA Directory computer.

### To run the IBM DB2 Enterprise Edition installation script

- 1 Verify that the IBM DB2 8.1 installation files have been copied to the installation staging area on the SESA Directory computer (default = /u01). The IBM DB2 8.1 installation files are located on SESA Foundation Pack CD2 in the /udb81 directory.  
See [“Copying the SESA Foundation Pack CDs to a Solaris staging area”](#) on page 57.
- 2 Open a terminal window to the SESA Directory computer, become superuser, and then change to the directory that contains the IBM DB2 8.1 Enterprise Edition installation files.  
See [“Connecting to a remote Solaris computer and exporting its display”](#) on page 130.
- 3 Type the following command to start the IBM DB2 8.1 installation:  

```
./db2_install -p DB2.ESE
```
- 4 Wait while the IBM DB2 installation program executes.  
When finished, the program responds with the following message:  

```
db2_install program completed successfully.
```

### To download and apply FixPak 6a for IBM DB2 8.1

- 1 Download FixPak 6a (FP6a\_U800266.tar.Z) to the SESA Directory computer from the following IBM FTP site:  

```
ftp://ftp.software.ibm.com/ps/products/db2/fixes/english-us/db2sunv8/FP6a_U800266/
```
- 2 Go to the location of the patch file, and then type the following command to decompress the patch:  

```
zcat < FP6a_U800266.tar.Z | tar xvf -
```

- 3 After the patch file finishes decompressing, type the following command to install the patch:

**fixpak.s040914/installFixPak**

When the patch installs successfully, the following information appears in the Terminal window:

```
=====
Summary
=====
```

Package	Patch ID	Patch Level	Result
db2sp81	1810750-120	8.1.0	SUCCESS
db2repl81	1810750-118	8.1.0	SUCCESS
db2pext81	1810750-111	8.1.0	SUCCESS
db2msen81	1810750-071	8.1.0	SUCCESS
db2jhen81	1810750-045	8.1.0	SUCCESS
db2jdbc81	1810750-042	8.1.0	SUCCESS
db2icut81	1810750-039	8.1.0	SUCCESS
db2icuc81	1810750-038	8.1.0	SUCCESS
db2essg81	1810750-030	8.1.0	SUCCESS
db2smp181	1810750-016	8.1.0	SUCCESS
db2rte81	1810750-015	8.1.0	SUCCESS
db2engn81	1810750-014	8.1.0	SUCCESS
db2das81	1810750-013	8.1.0	SUCCESS
db2crte81	1810750-011	8.1.0	SUCCESS
db2conv81	1810750-010	8.1.0	SUCCESS
db2conn81	1810750-009	8.1.0	SUCCESS
db2cliv81	1810750-008	8.1.0	SUCCESS
db2cj81	1810750-007	8.1.0	SUCCESS

Log saved in /tmp/installFixPak.log.8.1.0

#### To add superuser to the dbsysadm group

- 1 Open a terminal window to the SESA Directory computer and become superuser.  
See [“Connecting to a remote Solaris computer and exporting its display”](#) on page 130.
- 2 **Modify the dbsysadm group to include "root" in the user members list.**  
**For information on modifying groups on a Solaris computer, see the information that is provided with the Solaris documentation.**

**To update the IBM DB2 license key on a Solaris computer**

- 1** Log on to the Solaris computer as a root user.
- 2** Insert the SESA Directory for Solaris CD 1: Database for the SESA Directory CD into the CD-ROM drive. Ensure that the CD is mounted.
- 3** At the command line, navigate to the `/opt/IBM/db2/V8.1/adm64/` directory.
- 4** At the command line, run the following command:  
`db2licm -a /sesadirdb2ese/db2/license/DB2_81fp2ese.lic`

## Preparing for and installing Oracle 9i on a Solaris computer

Oracle 9i must be installed and a supporting database created before you can install the SESA DataStore software.

See [“Installing the SESA DataStore for Oracle on a Solaris computer”](#) on page 166.

---

**Note:** Symantec does not make available for sale or resale any Oracle product, including Oracle 9i database software. You must purchase the Oracle 9i database software separately if you want to use the database with SESA.

---

You must complete the following tasks to install the Oracle 9i database on Solaris:

- [Preparing the Solaris 8 environment for Oracle 9i installation](#)
- [Installing the Oracle 9i database software on Solaris](#)
- [Applying the required Oracle 9i database patches on Solaris](#)
- [Creating one or more Oracle 9i databases for SESA on Solaris](#)

The SESA Directory and SESA Manager must reside on different computers than the one on which the Oracle 9i database server is installed. Oracle 9i is not included with the SESA Foundation Pack.

The communication between the Oracle 9i database and the SESA Manager is over normal unencrypted SQL\*Net. Therefore, this connection should be on a private network. Access to the SESA DataStore computer should not be available to anyone except authorized users through a firewall.

The procedures for installing Oracle 9i assume that you are an Oracle database administrator or have equivalent knowledge. In addition, you should have access to Oracle technical support.



## Preparing the Solaris 8 environment for Oracle 9i installation

You must complete the following tasks to prepare the Solaris 8 environment for Oracle 9i installation:

- Configure kernel parameters in the `/etc/system` file.
- Add a dba group and an Oracle user.
- Copy the Oracle 9i installation disks to a staging area on the SESA DataStore computer.
- Modify the `.profile` file in the Oracle user login environment.

### To configure kernel parameters in the `/etc/system` file

- 1 Log in to the Solaris 8 SESA DataStore computer and become superuser.  
See [“Connecting to a remote Solaris computer and exporting its display”](#) on page 130.

- 2 In a text editor, open the `/etc/system` file, and then append the following lines:

```
set shmsys:shminfo_shmmax = 4294967295
set shmsys:shminfo_shmmin = 1
set shmsys:shminfo_shmmni = 100
set semsys:seminfo_semmni = 100
set shmsys:shminfo_shmseg = 10
set semsys:seminfo_semmsl = 100
set semsys:seminfo_semmns = 2500
```

- 3 Save and close the `/etc/system` file.

### To add a dba group and an Oracle user

- 1 As superuser in the SESA DataStore computer Terminal window, type the following command:

```
groupadd -g 400 dba
```

- 2 Verify that the `/export/home` directory exists, and if it does not, type the following command to create it:

```
mkdir /export/home
```

- 3 Type the following command to create an Oracle user:

```
useradd -u 400 -c "Oracle Owner" -d /export/home/oracle -g "dba"
-m -s /usr/bin/ksh oracle
```

- 4 Type the following command to set the password for the Oracle user:

```
passwd oracle
```

- 5 Verify that the /u01 and /u02 directories exist, and if they do not, type the following command to create them:  

```
mkdir /u01 /u02
```
- 6 Type the following command to change the ownership of the /u01 and /u02 directories to the Oracle user:  

```
chown -R oracle:dba /u01 /u02
```

#### To copy the Oracle 9i installation disks to a staging area on the SESA DataStore computer

- 1 As the superuser in the SESA DataStore computer Terminal window, type the following command:  

```
mkdir /export/home/oracle/staging
```
- 2 On the SESA DataStore computer, insert the Oracle9i Database (64-bit) CD 1 of 3 into the CD-ROM drive, and then type the following command:  

```
cp -rp /cdrom/disk1 /export/home/oracle/staging/Disk1
```

Make sure that the directory disk1 (as well as disk2 and disk3 in the following steps) is renamed with an uppercase D in the copy process. This ensures that the Oracle Installer can copy the files from all 3 disks without user intervention during the installation process.
- 3 After the copy process completes, insert the Oracle9i Database (64-bit) CD 2 of 3 into the CD-ROM drive, and then type the following command:  

```
cp -rp /cdrom/disk2 /export/home/oracle/staging/Disk2
```
- 4 After the copy process completes, insert the Oracle9i Database (64-bit) CD 3 of 3 into the CD-ROM drive, and then type the following command:  

```
cp -rp /cdrom/disk3 /export/home/oracle/staging/Disk3
```
- 5 After the copy process completes, remove CD3 from the CD-ROM drive.

#### To modify the .profile file in the Oracle user login environment

- 1 As superuser on the SESA DataStore computer, in a text editor, open the /export/home/oracle/.profile file, and then append the following lines:  

```
ORACLE_SID=SESA;export ORACLE_SID  
ORACLE_HOME=/u02/app/oracle/product/9.2.0.1.0;export  
ORACLE_HOME  
ORACLE_BASE=/u02/app/oracle;export ORACLE_BASE  
PATH=$PATH:$ORACLE_HOME/bin;export PATH
```
- 2 Save and close the .profile file.
- 3 Restart the SESA DataStore computer.

As the computer restarts, ensure that there are no genunix error messages in the Terminal window. If you see any errors, you probably mistyped a kernel parameter. Reconfigure the kernel parameters as necessary. If you are remotely connected to the computer, the Telnet session closes.

## Installing the Oracle 9i database software on Solaris

The procedures for installing Oracle 9i vary by environment. The following procedures are intended as guidelines only. See your Oracle database administrator or the Oracle 9i product documentation for more information.

You must install one Oracle 9i database instance for each SESA DataStore that you plan to install.

---

**Note:** To install Oracle 9i, you should be an Oracle database administrator or have equivalent knowledge. In addition, you should have access to Oracle technical support.

---

### To install the Oracle 9i database software

- 1 Log in to the Solaris 8 SESA DataStore computer and become Oracle user. If you are connecting to the SESA DataStore computer from another computer, you must export the display of the remote computer on which you are running the Oracle installation program. See [“Connecting to a remote Solaris computer and exporting its display”](#) on page 130.
- 2 Type the following command to run the Oracle Universal Installer:  
`./staging/Disk1/runInstaller`
- 3 In the Oracle Universal Installer Welcome window, click **Next**.
- 4 In the Inventory Location window, type or verify the Inventory Location path that matches the ORACLE\_BASE that you specified in the .profile file with /oraInventory appended (/u02/app/oracle/oraInventory), and then click **OK**.
- 5 In the UNIX Group Name window, in the UNIX Group Name box, type `dba`, and then click **Next**.
- 6 When an Oracle Universal Installer message informs you that you need root privileges to perform the following actions, open a new Terminal window to the SESA DataStore computer.
- 7 Become superuser in this new window, and then type the following command:  
`/tmp/orainstRoot.sh`

- 8 When the shell script completes, return to the Oracle Universal Installer message window, and then click **Continue**.
- 9 In the File Locations window, type an Oracle Home name (for example, Oracle920), type or verify the default Oracle Home path that matches what you specified in the .profile file (u02/app/oracle/product/9.2.0.1.0), and then click **Next**.
- 10 In the Available Products window, click **Oracle9i Database 9.2.0.1.0**, and then click **Product Languages**.
- 11 In the Language Selection window, use the arrow keys to select the languages that are required by your installation, and then click **OK**.
- 12 Click **Next**.
- 13 In the Installation Types window, click **Custom**, and then click **Next**.
- 14 In the Available Product Components window, select all of the software for which you have a license, except for the following components:
  - Oracle HTTP Server
  - Legato Networker Single Server
- 15 Expand **Oracle Enterprise Manager Products 9.2.0.1.0**, and then uncheck the following:
  - **Enterprise Manager Web Site 9.2.0.1.0**
  - **Oracle Management Server 9.2.0.1.0**
  - **Oracle HTTP Server 9.2.0.1.0**
- 16 Expand **Enterprise Edition Options 9.2.0.1.0**, and then uncheck **Legato Networker Single Server 6.1.0.0.0**.
- 17 Click **Next**.
- 18 In the Component Locations window, accept the default or change the location for the Oracle Universal Installer, and then click **Next**.
- 19 In the Privileged Operating System Groups window, type or verify **dba** as the Database Administrator (OSDBA) Group and the Database Operator (OSOPER) Group, and then click **Next**.
- 20 In the Create Database window, click **No**, and then click **Next**.
- 21 In the Summary window, verify your selections, and then click **Install**.
- 22 In the Installation Types window, click the appropriate database server option, and then click **Next**.

It is assumed that Oracle has licensed you for the software that you select.
- 23 In the Summary window, click **Install**.

- 24 When the Setup Privileges window informs you that a configuration script must be run with root privileges, open a SESA DataStore computer Terminal window, and then become superuser.
- 25 Go to the directory that is listed in the Setup Privileges message window, and then type the following command:  

```
./root.sh
```
- 26 Follow the instructions in the script.
- 27 After the script completes, in the Setup Privileges window, click **OK**.
- 28 In the Oracle Net Configuration Welcome window, click **Perform typical configuration**, and then click **Next**.
- 29 In the Add Database to Tree window, click **Cancel**.
- 30 In the End of Installation window, click **Exit**.
- 31 Ensure that you update Oracle 9i with the required database patch.

## Applying the required Oracle 9i database patches on Solaris

After the initial install of Oracle 9i, you must apply the 9.2.0.4 (or later) cluster patch to prepare your Oracle 9i database for use with SESA. Oracle cluster patches are collections of individual recommended patches. These patch collections have passed a more thorough testing process. Apply the patch by completing the following tasks:

- Download and decompress the 9.2.0.4. patch from Oracle.
- Stop any Oracle processes that are running.
- Launch the currently installed Oracle Universal Installer.
- Install the Oracle Universal Installer that is included with the patch.
- Install the Oracle 9.2.0.4 patch.

### To download and decompress the 9.2.0.4 patch from Oracle

- 1 Connect to the Oracle technical support Web site.  
You must have an Oracle support account to access this Web site. For more information, see your Oracle administrator.
- 2 Download patch 3095277 to the SESA DataStore computer on which you installed Oracle 9i.  
This patch number corresponds to the 9.2.0.4 patch for Solaris 64 bit. If a later cluster patch than 9.2.0.4 exists, download and install it instead.
- 3 Decompress the patch.

### To stop any Oracle processes that are running

- 1 Open a Terminal window to the Solaris 8 SESA DataStore computer and become Oracle user.  
If you are connecting to the SESA DataStore computer from another computer, you must export the display of the remote computer on which you are running the Oracle installation program.  
See [“Connecting to a remote Solaris computer and exporting its display”](#) on page 130.
- 2 Type the following commands:  

```
<ORACLE_HOME>/bin/agentctl stop  
<ORACLE_HOME>/bin/lsnrctl stop
```

### To launch the currently installed Oracle Universal Installer

- 1 Go to the home directory for Oracle user (/export/home/oracle), and then type the following command to run the currently installed Oracle Universal Installer:  

```
./staging/Disk1/runInstaller
```
- 2 In the Oracle Universal Installer Welcome window, click **Next**.
- 3 In the File Locations window, in the Source Path box, type the location to which you downloaded and decompressed the 9.2.0.4 patch., and then click **Next**.
- 4 Verify that the Destination Name and Path match those used in the original Oracle installation, and if they do not, type the correct values, and then click **Next**.

### To install the Oracle Universal Installer that is included with the patch

- 1 In the Available Products window, click **Oracle Universal Installer 2.2.0.18.0**, and then click **Product Languages**.
- 2 In the Language Selection window, use the arrow keys to select the languages that are required by your installation, click **OK**, and then click **Next**.
- 3 Click **Next**.
- 4 In the Component Locations window, accept the default or change the location for the new Oracle Universal Installer, and then click **Next**.
- 5 In the Summary window, verify your selections, and then click **Install**.
- 6 In the End of Installation window, click **Next Install**.

### To install the Oracle 9.2.0.4 patch

- 1 In the File Locations window, verify the information, and then click **Next**.
- 2 In the Available Products window, select **Oracle 9iR2 Patchset 9.2.0.4.0**, and then click **Next**.
- 3 In the Summary window, verify your selections, and then click **Install**.
- 4 When the Setup Privileges window informs you that a configuration script must be run with root privileges, open a SESA DataStore computer Terminal window, and then become superuser.
- 5 Go to the directory that is listed in the Setup Privileges message window, and then type the following command:  

```
./root.sh
```
- 6 Follow the instructions in the script.
- 7 After the script completes, in the Setup Privileges window, click **OK**.
- 8 In the End of Installation window, click **Exit**.

## Creating one or more Oracle 9i databases for SESA on Solaris

SESA 2.1 provides a new Oracle Installation script, `create.sh`, that you use to create an Oracle 9i database to be used as the SESA DataStore. You must create a separate Oracle database for each SESA DataStore that you plan to use. The databases must be created prior to running the SESA Installation Wizard to install the SESA DataStore software.

The `create.sh` script creates the database configuration files and the SQL script used to create the SESA database. By default, `create.sh` runs the database creation script automatically.

Once the initial SESA database is created, you can create as many databases as necessary by editing `create.sh` and running it again for each additional SESA database.

See [“Creating additional databases to support multiple SESA DataStores on Solaris”](#) on page 125.

To create one or more Oracle 9i SESA databases you must complete the following tasks for each database the order they are presented:

- [Editing and running the `create.sh` installation script](#)
- [Turning on redo log archival for Oracle on Solaris](#)

## Editing and running the create.sh installation script

The create.sh script creates the files needed to create an Oracle database that can be used as a SESA DataStore. By default the create.sh script installs and runs the files it creates.

Running the create.sh script creates the following files:

create.sql	A SQL script used to create the <DBNAME> database to be used as a SESA DataStore.
init<DBNAME>.ora	The configuration file containing all of the initialization parameters for the <DBNAME> database.
listener.ora	The configuration file for the Oracle listener that makes the database available over the network to the SESA Manager and other clients.
tnsnames.ora	A sample tnsnames file that can be used by Oracle clients, such as SQL*Plus, to connect remotely. This file is not used by the SESA Manager.
recreate.sql	A SQL script that can be run manually to drop and recreate the SYMCMGMT database user without having to drop and recreate the entire database.

If you are an experienced user, you may want to change the RUN\_SCRIPTS default value to false, so that the generated files are not run automatically. You can then edit the generated scripts to create Oracle configurations that take full advantage of the hardware and provide for higher availability.

In the most simple case, you can run the create.sh without modification to create an Oracle database named SESA. After changing the database name parameter, the script can be run again to create additional databases as needed to support multiple SESA DataStores.

There are many parameters and possible configurations that you can use to create an Oracle database. To reduce the complexity, at the beginning of the create.sh script, the parameters that you are most likely to change are presented as script variables with default values that can be edited.



### To edit and run the create.sh script

- 1 Open a Terminal window to the SESA DataStore computer, and then navigate to the create.sh file location.  
If you copied the SESA Foundation Pack to the default installation staging area, the location is /u01/Solaris.CD1/ORACLE.
- 2 In a text editor, open the create.sh file, and then modify it as necessary. Use the following guidelines:

RUN_SCRIPTS	<p>Default = true</p> <p>Set to false if you do not want the create.sh script to install the database configuration files and run the database creation script it generates. Setting this parameter to false allows advanced users to edit the generated files before running them manually.</p>
DBVERSION	<p>Default = 9.2.0.1.0</p> <p>Set to the value that matches the value used in the ORACLE_HOME path used when installing the Oracle 9i software.</p> <p>This parameter and ORACLE_HOME are used in the directory path used to build the database file structure.</p>
ORACLE_HOME	<p>Default = /u02/app/oracle/product/\$DBVERSION</p> <p>Set to the value that matches the value used in the ORACLE_HOME path used when installing the Oracle 9i software.</p> <p>This parameter and DBVERSION are used in the directory path used to build the database file structure.</p>
JAVA	<p>Default = "\$ORACLE_HOME/jdk/bin /java -cp ."</p> <p>Set to the location of the Java executable used by Oracle.</p> <p>By default, the Oracle 9i installation also installs its own version of Java. If your Oracle 9i installation does not use the default Oracle version of Java, replace the default path with the path to the Java version used by your Oracle installation.</p>
DBNAME	<p>Default = SESA</p> <p>Set to the database name.</p> <p>If you are installing multiple databases to support multiple SESA DataStores, you must change this parameter each time you run create.sh so that each database has a different name.</p>
BLOCKSIZE	<p>Default = 32768</p> <p>Set to 32768 for 64-bit Oracle and 16384 for 32-bit Oracle.</p>

CACHESIZE	<p>Default = 300000000</p> <p>Set to the amount of physical memory (in bytes) reserved by Oracle for database caching. This amount is reserved for each database you create on the same computer</p> <p><math>CACHESIZE + PGA\_AGG + 100M</math> = the total amount of physical memory reserved by Oracle for each database you create on the same computer. You must ensure that these parameters are set so that amount of memory reserved by Oracle plus the amount required by the operating system plus the amount required by any other programs, does not exceed the amount of physical memory installed on the computer.</p>
PGA_AGG	<p>Default = 200000000</p> <p>Set to the amount of physical memory (in bytes) reserved by Oracle for database sorts and joins. This amount is reserved for each database you create on the same computer</p> <p><math>CACHESIZE + PGA\_AGG + 100M</math> = the total amount of physical memory reserved by Oracle for each database you create on the same computer. You must ensure that these parameters are set so that amount of memory reserved by Oracle plus the amount required by the operating system plus the amount required by any other programs, does not exceed the amount of physical memory installed on the computer.</p>
TIMEZONE	<p>Default = America/Los_Angeles</p> <p>Set to the local timezone. See your Oracle documentation for a list of possible timezone values.</p>

The following script variables are included for completeness. They should not have to be changed under normal circumstances.

U01DATA	Default = /u01/oradata/\$DBNAME
U02DATA	Default = /u02/oradata/\$DBNAME
ADMIN	Default = /u02/app/oracle/admin/\$DBNAME
USERBASE	<p>Default = \$U01DATA/sesa32kuserbase01.dbf</p> <p>Most of the SESA event data is stored in USERBASE and USEROTH. Ensure that the specified location has enough available disk space to support your event volume.</p>
USEROTH	<p>Default = \$U01DATA/sesa32kuseroth01.dbf</p> <p>Most of the SESA event data is stored in USERBASE and USEROTH. Ensure that the specified location has enough available disk space to support your event volume.</p>

USERDEF	Default = \$U01DATA/sesa32kuserdef01.dbf
SESATEMP	Default = \$U01DATA/sesa32ktemp space01.dbf
USERBASE_SIZE	Default = 1000M
USEROTH_SIZE	Default = 1000M
USERDEF_SIZE	Default = 100M
SESATEMP_SIZE	Default = 1000M
CONTROL1	Default = \$U01DATA/control01.ctl
CONTROL2	Default = \$U02DATA/control02.ctl
CONTROL3	Default = \$U01DATA/control03.ctl
REDO1	Default = \$U02DATA/redo01.log
REDO2	Default = \$U02DATA/redo02.log
SYSTEM	Default = \$U01DATA/system01.dbf
SYSTEMP	Default = \$U01DATA/temp01.dbf
UNDO	Default = \$U01DATA/undotbs01.dbf
BDUMP	Default = \$ADMIN/bdump
CDUMP	Default = \$ADMIN/cdump
UDUMP	Default = \$ADMIN/udump
ARCHIVEDEST	Default = \$U01DATA/arch
RDBMSADMIN	Default = \$ORACLE_HOME/rdbms/admin
SQLPLUSADMIN	Default = \$ORACLE_HOME/sqlplus/admin

3 Save and close the create.sh file.

4 Type the following command to run the create.sh script:

```
sh create.sh
```

The database creation files are generated. If RUN\_SCRIPTS = true, then the generated files are run immediately to create a database; otherwise, you must run them manually. When run, either automatically or manually, the database creation SQL script (create.sql) prompts you to enter passwords for specific administrative database users.

- 5 When prompted, type the passwords for SYCMGMT, SYSTEM, and SYS. Wait while the SESA database is created. Depending on the speed of your computer, creating a SESA database can take a long time. When the database is successfully created, the script returns:

```
Database creation complete.
```

## Turning on redo log archival for Oracle on Solaris

You can turn on redo log archival so that you can reapply changes that are made to your database after a specific backup point. Turning on redo log archival results in slower database performance.

To turn on redo log archival on an Oracle database that supports a SESA DataStore, you must complete the following tasks:

- Modify the init<DBNAME>.ora file.
- Shut down and restart the <DBNAME> Oracle database that supports the SESA DataStore.
- Change the <DBNAME> Oracle database to turn on redo log archival.

In the following procedures substitute the variable <DBNAME> with the name of the database for which you are turning on redo log archival.

### To modify the init<DBNAME>.ora file

- 1 In a text editor, open the init<DBNAME>.ora file, then remove the pound characters (#) from the following lines:

```
# log_archive_start=true
# log_archive_dest_1='location=/u01/oradata/<DBNAME>/arch'
```
- 2 Save and close the init<DBNAME>.ora file.
- 3 Verify that the archive directory exists, and if it does not, change to Oracle user, and then type the following command to create it:

```
mkdir /u01/oradata/<DBNAME>/arch
```

### To shut down and restart the Oracle database that supports the SESA DataStore

- 1 Open a Terminal window to the SESA DataStore computer, become Oracle user, and then type the following command to launch SQL\*Plus:

```
sqlplus /nolog
```

- 2 At the SQL\*Plus prompt, type the following commands:

```
connect / as sysdba
shutdown immediate
startup mount
```

### To change the Oracle database to turn on redo log archival

- 1 Open a Terminal window to the SESA DataStore computer, become Oracle user, and then type the following command to launch SQL\*Plus:  

```
sqlplus /nolog
```
- 2 At the SQL\*Plus prompt, type the following commands:  

```
alter database archivelog;  
alter database open;
```
- 3 Type the following command to verify that you turned on archive mode successfully and generate a brief report about the archive mode:  

```
archive log list
```

## Creating additional databases to support multiple SESA DataStores on Solaris

In SESA 2.1, you create additional databases to support multiple SESA DataStores in exactly the same way as you create the initial supporting database. You can create as many databases as your system can support. When you create additional databases, you must ensure that the names of the databases used by SESA are all different.

### To add an additional database

- 1 In a text editor, open the /u01/Solaris.CD1/ORACLE/create.sh file.  
If you do not use the default SESA installation staging area (/u01/Solaris.CD1), replace the default with path to the SESA staging on your computer.
- 2 Change the value of DBNAME to an unused value.  
When using multiple SESA DataStores, each supporting database within the SESA system must have a different name.
- 3 Make any additional changes to create.sh that are required to create this database.  
See [“Editing and running the create.sh installation script”](#) on page 120.
- 4 Save and close the create.sh file.
- 5 Type the following command to run the create.sh script:  

```
sh create.sh
```

The database creation files are generated. If RUN\_SCRIPTS = true, then the generated files are run immediately to create a database; otherwise, you must run them manually. When run, either automatically or manually, the database creation SQL script (create.sql) prompts you to enter passwords for certain administrative database users.

- 6 When prompted, type the passwords for SYCMGMT, SYSTEM, and SYS. Wait while the SESA database is created. Depending on the speed of your computer, creating a SESA database can take a long time. When the database is successfully created, the script returns:  
`Database creation complete.`

## Installing an IBM DB2 Runtime Client on a Solaris computer

If you are installing the SESA Manager on a Solaris computer, but you are using an IBM DB2 Universal Database server on a Windows computer as the SESA DataStore, the IBM DB2 software requires that an IBM DB2 Runtime Client 8.1 with FixPak 6a be installed on the SESA Manager computer to support the remote database connection.

The IBM DB2 Runtime Client for Solaris platforms is available to IBM DB2 Universal Database server users. It is not included with the SESA Foundation Pack CD set.

The IBM DB2 Runtime Client 8.1 with FixPak 6a must be installed on the SESA Manager computer before you install the SESA Manager.

To install the IBM DB2 Runtime Client on a Solaris computer, you must do the following:

- Download and install the IBM DB2 8.1 Runtime Client with FixPak 6a.

In addition, if a SESA Manager is already installed and configured to connect to a remote Oracle database, and a new IBM DB2 database has been added to the environment, you must also complete the following tasks:

- Modify the `catalina.sh` script.
- Create a symbolic link for `libdb2jdbc.so`.
- Restart Tomcat.

### To download and install the IBM DB2 8.1 Runtime Client with FixPak 6a

- 1 Download IBM DB2 8.1 Runtime Client with FixPak 6a (PF6a\_U800266\_RTCL.tar) to the SESA Manager computer from the following IBM FTP site:  
`ftp://ftp.software.ibm.com/ps/products/db2/fixes/english-us/db2sunv8/client/runtime/`
- 2 Go to the location of the Runtime Client file, and then type the following command to decompress the patch:  
`tar xvf PF6a_U800266_RTCL.tar`

- 3 After the Runtime Client file finishes decompressing, type the following command to install the Runtime Client:  

```
/rtcl/db2_install -p DB2.RTCL
```

When the IBM DB2 8.1 Runtime Client with FixPak 6a installs successfully, the installation program returns the following:  
Installation of <db2rtsg81> was successful.

#### To modify the catalina.sh script

- 1 In a text editor, open the shell script **/opt/IBMHTTPD/tomcat/bin/catalina.sh**.
- 2 Verify the following two lines:  

```
DB2INSTANCE=db2inst1
```

```
Export DB2INSTANCE
```

If you did not specify db2inst1 (default) as the instance name when you installed the IBM DB2 Runtime Client, change db2inst1 to the instance name that you specified.
- 3 To add the path /opt/IBM/db2/v8.1/java/db2java.zip to Tomcat's classpath, append the path to the line that includes bootstrap.jar.  
After modification, the line should read as follows:  

```
CLASSPATH="$CLASSPATH":"$CATALINA_HOME"/bin/bootstrap.jar:/opt/IBM/db2/V7.1/java12/db2java.zip
```
- 4 Save and close the **catalina.sh** script.

#### To create a symbolic link for libdb2jdbc.so

- 1 In a Terminal window to the SESA Manager computer, change to superuser, if you are not already, and then navigate to /usr/lib.
- 2 Type the following command:  

```
ln -s /opt/IBM/db2/V8.1/lib/libdb2jdbc.so libdb2jdbc.so in /usr/lib pointing to /opt/IBM/db2/V8.1/lib/libdb2jdbc.so
```
- 3 After you create the symbolic link, type the following command to verify that the link was created correctly:  

```
ls -l /usr/lib/libdb2jdbc.so
```

The Solaris computer should respond with something similar to the following:  

```
lrwxrwxrwx 1 root other 34 Sep 11 20:18 libdb2jdbc.so -> /opt/IBM/db2/V8.1/lib/libdb2jdbc.so
```

#### To restart Tomcat

- ◆ In a Terminal window on the Tomcat computer, become superuser, and then type the following commands.

```
/opt/IBMHTTPD/tomcat/bin/catalina.sh stop  
/opt/IBMHTTPD/tomcat/bin/catalina.sh start
```

## Preparing a Solaris computer to run the Symantec management console

You must complete the following tasks to prepare a Solaris 8 computer to run the Symantec management console:

- Download and install the required Solaris 8 packages and patches.
- Download and install Mozilla 1.7.2.
- Install J2RE 1.4.2\_02 and create a symbolic link to the J2RE 1.4.2\_02 plugin.

#### To download and install the required Solaris 8 packages and patches

- 1 Go to [http://www.sun.com/software/solaris/freeware/pkggs\\_download.html](http://www.sun.com/software/solaris/freeware/pkggs_download.html)
- 2 Download the following packages to the Symantec management console computer:

- gcmn 1.0
- glib 1.2.10
- gtk 1.2.10

These packages are part of the Solaris 8 Companion CD for your Solaris computer. You may have to register with Sun to complete the download.

- 3 Navigate to the location of downloaded package files, and then decompress them.
- 4 Type the following commands to add the packages:  

```
pkgadd -d <path to package files>/SFWgcmn  
pkgadd -d <path to package files>/SFWglib  
pkgadd -d <path to package files>/SFWgtk
```
- 5 Go to <http://sunsolve.sun.com>



- 6 Download the following patches to the Symantec management console computer:
  - 111721-04 (or higher)
  - 113261-02 (or higher)
  - 114542-01 (or higher)
  - 108733-18
  - 109159-03
  - 109704-03
- 7 Navigate to the location of downloaded patch files, and then decompress them.
- 8 Type the following command to add the patches:  

```
patchadd -M <path to patch files> 111721-04 113261-02 114542-01  
108733-18 109159-03 109704-03
```

#### **To download and install Mozilla 1.7.2**

- 1 Go to <http://www.mozilla.org/releases/>
- 2 Download Mozilla 1.7.2 for your Solaris 8 computer.  
For example, for a SPARC platform, download the mozilla-sparc-sun-solaris-2.8-1.7.2.tar.gz file.
- 3 Decompress the downloaded file.
- 4 Move the mozilla folder, created by decompressing the download file, to its permanent location (for example /opt).
- 5 Type the following command to begin the Mozilla installation:  

```
<path to mozilla folder>/mozilla/mozilla
```
- 6 Follow the onscreen instructions to complete the Mozilla installation.

#### **To install J2RE 1.4.2\_02 and create a symbolic link to the J2RE 1.4.2\_02 plugin**

- 1 Install J2RE 1.4.2\_02 according to the procedure shown here  
REF to Installing J2RE on Solaris computers.
- 2 Navigate to <Mozilla install location>/mozilla/plugins
- 3 Create a symbolic link to the J2RE 1.4.2\_02 plugin.  
For example, on a SPARC platform, type the following command:  

```
ln -s <path to J2RE 1.4.2_02 install location>/j2re1.4.2_02/  
plugin/sparc/ns610/libjavaplugin_oji.so libjavaplugin_oji.so
```

## Connecting to a remote Solaris computer and exporting its display

Remote installations are convenient when the Solaris computer on which the SESA component is to be installed does not have a video card or monitor, or is not physically accessible to you. You can use Telnet sessions to access the installation computer remotely. When the installation has a graphical user interface (GUI) associated with it, you must set and export the display of the remote computer to the computer at which you are physically located.

You must also export the display if you are installing Oracle 9i on a local Solaris computer, but you did not log in to the local computer's GUI as Oracle user.

### To connect to a remote Solaris computer and export its display

- 1 Log on to the GUI on the local Solaris computer.
- 2 Open a Terminal window on the local computer, and then type the following command:  

```
xhost + <Host name of the remote SESA computer>
```

The only user that can add additional hosts to the access list is the user that originally logged in to the GUI desktop. You can also check the xhost man pages for instructions on exporting a display with the level of security that your environment requires.
- 3 In the Terminal window on the local computer, type the following command to initiate a Telnet session with the remote SESA computer:  

```
telnet <IP address or host name of the remote SESA computer>
```
- 4 Type the username and password of an account on the remote SESA computer.  
You are now connected to the remote computer through the Terminal window on the local computer.
- 5 If you need to change to a different user on the remote computer (such as root or Oracle), type the following command:  

```
su - <new user>
```
- 6 At the prompt, type the password that is associated with the new user.
- 7 Change to the user under which you want to run a program with a GUI (for example, the SESA Installation Wizard must be run as superuser), and then type the following command:  

```
DISPLAY=<Host name of the local Solaris computer>:0;export  
DISPLAY
```

# Installing SESA

This chapter includes the following topics:

- [SESA Foundation Pack installation overview](#)
- [Starting the SESA Installation Wizard](#)
- [Performing an Express Install](#)
- [Installing the SESA Directory](#)
- [Installing the SESA DataStore](#)
- [Installing the SESA Manager](#)
- [Installing the SESA Agent for heartbeat monitoring](#)
- [Performing a silent installation on Solaris or Windows computers](#)

## SESA Foundation Pack installation overview

Depending on the computer platforms and database products that you plan to use for a SESA installation, you can install SESA components in a number of configurations.

To install SESA components on a Windows platform, you must be physically located at the Windows computer. You can run a SESA component installation either locally or remotely on Solaris computers.

The three main components of the SESA Foundation Pack are the SESA Directory (IBM Directory Server), the SESA DataStore (IBM DB2 on Windows platforms; Oracle 9i on Solaris platforms), and the SESA Manager. If you are using IBM DB2 as the SESA DataStore, you can install all of the SESA components on a single Windows computer. Typically, however, SESA components are divided among two or more Windows computers, depending on your network size and configuration requirements.

If you are using Oracle 9i as the SESA DataStore, you must dedicate a single Solaris computer for its use. The SESA Manager and SESA Directory can reside on one or two Solaris computers, depending on your networking requirements. You cannot install SESA directly to the root directory of a computer.

See [“Preparing for installation”](#) on page 51.

Whether you install all of the components on one computer or divide components among computers, you must install the SESA Directory first, then the SESA DataStore, and, finally, the SESA Manager.

## Installing SESA with command-line parameters

You can run the SESA Installation Wizard with command-line parameters on either Windows or Solaris operating systems. [Table 6-1](#) lists the available command-line parameters.

**Table 6-1** Installation command-line parameter

Parameter	Value	Description
-debug	None	Displays trace output while you are installing SESA.
-log	None	Writes trace output to the Sesainst.log file, which is located in the system Temp directory that Java uses.
-silent	-f <filename>	Performs a silent (unattended) installation using the values in the specified settings file <filename>. See <a href="#">“Performing a silent installation on Solaris or Windows computers”</a> on page 185.
-silentfile	-f <filename>	Creates a settings file named <filename> by recording the user’s input.  This option does not perform an actual installation; it only creates the settings file for use in subsequent silent (unattended) installations.  See <a href="#">“Performing a silent installation on Solaris or Windows computers”</a> on page 185.

**Note:** Do not run the installation with a command line directly from the SESA Foundation Pack distribution media.

### To install SESA with command-line parameters

- 1 To change directories to the SESA Foundation Pack CD1, on the computer on which you are starting the SESA Installation Wizard, at the command prompt, type the following command:  
`cd /<SESA CD1 directory>`
- 2 To start the SESA Installation Wizard with the desired command-line parameters, type the following command:  
`java -jar setup.jar_ <parameter>`  
where <parameter> is the command-line parameter that you want to use. For example, `java -jar setup.jar_ -debug`.
- 3 To continue with the installation, do one of the following:

Windows Go to step 2 of any of the following procedures:

- [“Installing the SESA Directory on a Windows computer”](#) on page 143
- [“Installing a SESA DataStore for IBM DB2 on a Windows computer”](#) on page 153
- [“Installing a SESA DataStore for Oracle 9i on a Windows computer”](#) on page 161
- [“Installing the SESA Manager on a Windows computer”](#) on page 173

If you want to install SESA in a demonstration or nonproduction environment, go to step 3 of [“Performing an Express Install”](#) on page 135.

Solaris Go to step 7 of any of the following procedures:

- [“Installing the SESA Directory on a Solaris computer”](#) on page 148
- [“Installing the SESA DataStore for Oracle on a Solaris computer”](#) on page 166
- [“Installing the SESA Manager on a Solaris computer”](#) on page 176

## Starting the SESA Installation Wizard

You can start the SESA Installation Wizard on Windows or Solaris operating systems using several methods. On Windows platforms, you must be physically located at the computer on which you are installing the SESA software. On Solaris platforms, you can either be physically located at the computer or use a remote connection.

### To start the SESA Installation Wizard on a Windows computer

- 1 To start the SESA Installation Wizard, insert the SESA Foundation Pack CD1 into the CD-ROM drive.  
If the wizard does not start automatically, locate the folder that contains the SESA installation files, and then double-click **CDStart.exe**.
- 2 To start the installation, click **Install SESA Components**.
- 3 If a message informs you that the SDK is not installed, do the following:
  - Click **OK**.
  - In the SESA Installation Wizard panel, click **Install JDK 1.3.1\_09** and follow the on-screen instructions.
  - When the installation of the JDK is complete, rerun the installation by restarting the Installation Wizard, and then clicking **Install SESA Components**.
- 4 When you are prompted to supply a location for temporary installation files, do one of the following:
  - Accept the default location as long as it has at least 75 MB of free hard disk space available.
  - Type a location or click **Browse** to find a different location that has 75 MB of hard disk space available.
- 5 In the introductory wizard panels, accept the license agreement, and follow the on-screen instructions until you reach the SESA Preinstallation Requirements Summary panel.
- 6 In the SESA Preinstallation Requirements Summary panel, if your system meets the pre-installation requirements, click **OK**.
- 7 Continue with the desired installation.

### To start the SESA Installation Wizard on a Solaris computer

- 1 Ensure that a local copy of the SESA Foundation Pack distribution media image has been copied to a staging directory on the SESA computer, and that the Solaris computer at which you are physically located has access to the SESA computer.  
The default installation staging directory for the SESA Foundation Pack is /u01/Solaris.CD1.
- 2 Open a Terminal window to the Solaris computer on which you want to install SESA and become superuser.  
If you are installing SESA on a remote computer, you must export the display of the remote computer.  
See [“Connecting to a remote Solaris computer and exporting its display”](#) on page 130.
- 3 Go to the installation staging directory, and then type the following command to start the SESA Installation Wizard:  

```
sh install.sh
```
- 4 Continue with the desired installation.

## Performing an Express Install

If you want to install the SESA Foundation Pack on a single Windows computer for nonproduction purposes, the SESA Installation Wizard provides an Express Install option that lets you easily set up a single demonstration or test computer that has all of the necessary SESA components installed.

The Express Install option does not require you to have a pre-existing installation of IBM DB2 Workgroup Edition or Enterprise Edition on the Windows computer to support the SESA Directory and SESA DataStore. Instead, the option uses IBM DB2 Personal Edition, which is provided on the SESA Foundation Pack distribution media and installed automatically when you select the Express Install option.

---

**Note:** The size and design of IBM DB2 Personal Edition limits its use as a database. By design, IBM DB2 Personal Edition can only support a single Intel processor and up to 2 GB of data storage. It must also be installed on the same computer as the SESA Manager. Because of these limitations, you should use the Express Install option in nonproduction environments only.

---

You perform an express installation in two phases. The first phase gathers information such as logon accounts and component locations. The SESA Installation Wizard then prompts you to restart your computer to finish the installation process.

---

**Note:** Before you run the installation program, you must disable or stop the WWW Publishing service. If you are using the IIS service, you should make sure that IIS is configured to listen on ports other than 443.

---

### To start an Express Install

- 1 On the computer to which you are installing, start the SESA Installation Wizard.  
See [“Starting the SESA Installation Wizard”](#) on page 134.
- 2 In the SESA Install Menu panel, click **Express Install**.
- 3 If a message informs you that no IBM DB2 database is installed, click **Yes** to continue.  
If you click No, you cannot continue with the installation.
- 4 In the Select Working Directory panel, do the following, and then click **Next**:
  - For the Working Directory, accept the default location or select another location.  
SESA requires a folder on your hard drive as a working directory and database storage location. The drive on which this folder resides should have at least 1 GB of free hard disk space.  
The 1 GB minimum is required only if you plan to install the SESA DataStore on a single drive. If you plan to install it across multiple drives, the minimum space requirement decreases according to the actual drive space that you specify for this directory.  
See [“Allocating additional physical drives for tablespace containers in low maintenance mode”](#) on page 158.
  - For the Manager Log Directory, accept the default location or select another location for SESA Manager logs.  
This is the directory to which the SESA Manager will write its working logs.



- 5 In the Local SESA Directory Master panel, do the following for the SESA Directory installation, and then click **Next**:

Directory Server Path	Type the location of the SESA Directory (by default, C:\Program Files\IBM\LDAP).
Administrator Name	Type the name for the IBM Directory Server administrator account in the form cn=<name> (by default, cn=root).
Administrator Password	Type and confirm an administrator password.
IP Address	Type the IP address of the computer on which the SESA Directory is being installed. SESA Managers use this IP address to communicate with the SESA Directory.  If connections to the SESA Directory computer are made using authenticated SSL, you must type the host name or FQDN of the computer instead of the IP address.
Directory port number	Type the secure listening port for the SESA Directory (by default, 636). SESA Managers use this port to communicate with the SESA Directory.

- 6 In the SESA Domain panel, type a unique name for the SESA administrative domain.

High-ASCII characters are allowed, but do not use special characters such as !, @, #, \$, %, >, &, and \*, or characters from a double-byte character set (DBCS).

The name appears in the Symantec management console navigational tree as the top-level administrative domain.

You can install additional SESA domains after the SESA components are installed.

See [“Installing additional SESA domains”](#) on page 198.

- 7 In the SESA Administrator panel, type a password for the SESA Directory Administrator account.

The SESA Directory Administrator password must be between six and twelve alphanumeric characters. This account is intended for top-level SESA Administrators who need access to the entire SESA Directory tree for installing SESA DataStores and SESA Managers. You can use this account to log onto the Symantec management console after installation.

SESA provides a permanent user name of SESAdmin.

- 8
- In the SESA Directory Domain Administrator panel, do the following for the SESA Domain Administrator account:

Domain Administrator	Type the name for the SESA Domain Administrator account. This account provides access to its associated SESA administrative domain. Each SESA administrative domain is associated with a single SESA Manager. Use this Domain Administrator name and password to log onto a particular SESA administrative domain (and SESA Manager) after the SESA installation is complete.
Domain Administrator Password	Type and confirm a Domain Administrator password between six and twelve alphanumeric characters.
Select Preferred Language	Select the language of the SESA Manager. The default language is English. If you install non-English security products, you must install them in the same language as the SESA Manager.

- 9
- In the SESA Secure Communications panel, to create the key database for self-signed SSL certificates, do the following:

Key Database Password	Type and confirm the password for the key database of six alphanumeric characters minimum. High-ASCII and DBCS characters are not allowed.
Company	Type the company name. High-ASCII and DBCS characters are not allowed.
Country	Select a country from the drop-down list.
Select host IP Address	Type the IP address of the computer on which the SESA Manager is being installed.
Key Size (bits)	Select the encryption length in bits for the default, self-signed certificate that SESA uses to secure data communication. The default setting of 1024 bits is standard. The longer the key size, the higher the security of the data encryption. However, the higher the security of the data encryption, the greater the amount of time required to encrypt and decrypt data.

- 10 In the Local SESA DataStore panel, do the following for the SESA DataStore installation:

DB2 path	Type the location for the SESA DataStore (by default, C:\Program Files\IBM\SQLLIB).
Database Administrator Name	Type the Database Administrator account name for the SESA DataStore. If the account does not exist, it is created.
Database Administrator Password	Type and confirm a password of six or more alphanumeric characters. An account with a password is required.
Host Name or IP Address	Type the IP address of the computer on which the SESA DataStore is being installed.  If connections to the SESA DataStore computer are made using authenticated SSL, you must type the host name or FQDN of the computer instead of the IP address.
Database port number	Type a port number that will be used by the database. The default is 50000.

- 11 If the SESA Installation Wizard prompts you to set up a valid Windows NT user account, click **Yes**.
- 12 In the SESA DataStore panel, confirm the default settings or do the following:

SESA DataStore Name	Type the new name for the SESA DataStore. The default setting is SESA.
Caption	Type a caption for the SESA DataStore. The default setting is the name of the computer.
Description	Type a new description, if necessary. The default setting describes the SESA schema and database driver type.

- 13 In the SESA DataStore: Database Definition Path panel, in the Enter SESA DataStore Database definition path box, accept the default location or click **Browse** to select another location.  
The SESA DataStore Database definition path is the location of the SESA DataStore system files.
- 14 In the SESA DataStore: Database Definition Path panel, under SESA DataStore Log Path, do one of the following:
  - Accept the default log path for the SESA DataStore.  
The default path is DB2\node0000\<sql00001>\sqllogdir. Depending on the number of SESA DataStores that you install, and the number of IBM DB2 databases, a different number may be supplied for <sql00001>.
  - Check **This Log path**, and then type a location or browse to the new log path location.  
By default, IBM DB2 stores logs on the same physical drive as the database. As a best practice, select a different physical drive.
- 15 In the SESA DataStore: Event Data Tablespace Configuration panel, do one of the following:
  - To install a SESA DataStore with automatically expanding tablespaces, click **Low maintenance**.  
You can allocate more than one physical drive for tablespace containers.  
See [“Allocating additional physical drives for tablespace containers in low maintenance mode”](#) on page 158.
  - To install a SESA DataStore with tablespaces that must be manually increased, click **High performance**.  
You can specify more than one physical drive for tablespace containers and allocate the amount of available disk space per drive.  
If you select this option, you must ensure that any antivirus Realtime scanning is turned off before the SESA DataStore is installed. You can turn Realtime scanning back on after the SESA DataStore installation.  
See [“Allocating additional physical drives for tablespace containers in high performance mode”](#) on page 158.

- 16** In the first SESA DataStore: Tuning panel, confirm the default settings or do the following:

Number of CPU	Type the number of CPUs available on the DataStore computer.
Available Memory	Choose a setting from the dropdown list. The option chosen determines the default setting for the Buffer Pool size setting in the subsequent wizard panel.
Number of Disks	Type the number of hard disks to be used by the DataStore.

- 17** In the second SESA DataStore: Tuning panel, confirm the default settings or do the following:

Buffer Pool Size	Type the amount of temporary RAM in MB to make available for the computer processor to manipulate SESA DataStore data before transferring the data to the hard disk.
Extent Size	Type the amount of contiguous storage space in 32-KB pages to make available to data. The larger the extent size, the faster the database fills. The smaller the extent size, the faster the database becomes fragmented.
Circular Logging/ Archive Logging	<p>Click <b>Circular Logging</b> to enable only full, offline backups of the database.</p> <p>See <a href="#">“Circular Logging”</a> on page 152.</p> <p>Click <b>Archive Logging</b> to enable roll-forward database recovery.</p> <p>See <a href="#">“Archive Logging”</a> on page 152.</p>
SESA DataStore/IBM DB2 backup directory	<p>Available for archive logging only. Type a location or click <b>Browse</b> to navigate to the location of the backup directory for the IBM DB2 SESA DataStore.</p> <p>The default Windows location is C:\SESA\symc_data.</p>

Depending on how many computers you are using to deploy the SESA Manager, SESA Directory, and SESA DataStore, Buffer Pool Size and Extent Size may work better with certain recommended values.

See [“IBM DB2 database memory usage specifications”](#) on page 231.

- 18
- In the Java SDK Directory panel, confirm the location in which you installed the Java Software Development Kit (SDK).
- 19
- In the Web Server Installation panel, for a Windows account, do the following:

Web Server Directory	Type the path for the IBM HTTP Server installation (by default, C:\Program Files\IBM Http Server).
Login Name	Type the login name for a Windows account of the computer on which the IBM HTTP Server is being installed. If the account does not exist, it is created.
Password	Type and confirm a password for the account. An account with a password is required.

- 20
- If the SESA Installation Wizard prompts you to set up a valid Windows NT user account, click **Yes**.

The SESA Installation Wizard displays this message if the Login Name and Password pair that you specified for the Web Server is not currently a Windows account.
- 21
- In the SESA Agent Listen IP panel, confirm that the SESA Agent IP address is 0.0.0.0.

The express installation does not support Microsoft Windows Network Load Balancing.
- 22
- In the SESA Agent panel, confirm the IP address of the SESA Manager computer.
- 23
- In the Insert SESA CD dialog box, when you are prompted, browse to the location of the requested installation files, which are located on the SESA Foundation Pack distribution media.

The SESA Installation Wizard reports the status of the components that are being installed using the specified logons, passwords, paths, and ports information.
- 24
- Restart the computer when you are prompted.

The restart is required to initialize the SESA Directory.

To finish an express installation

- 1
- After you restart your computer, in the Welcome to the SESA Installation panel, click **Next**.
- 2
- In the SESA Install Menu panel, click **Exit SESA Installer**.

- 3 When you are prompted to exit the installation, click **Yes**.
- 4 In the SESA Installation Successful panel, to complete the installation and exit the SESA Installation Wizard, click **Finish**.

## Installing the SESA Directory

You install the SESA Directory on a single computer. After you install the SESA Directory, you install the SESA DataStore on the same computer or a separate one, depending on your resource requirements and the database software that you are using.

See [“Installing the SESA DataStore”](#) on page 151.

If you are installing the SESA Directory for the first time, you must install it in two phases. The first phase gathers information such as logon accounts and component locations. The SESA Installation Wizard then prompts you to restart your computer to finish the installation process.

If IBM Tivoli Directory Server is already installed on the computer, the SESA Installation Wizard detects it and prompts you to install over the existing version or connect to the already installed version. If you are installing over or connecting to an existing version, the SESA Directory installation steps vary somewhat from the new installation steps.

## Installing the SESA Directory on a Windows computer

The SESA Installation Wizard installs the IBM Tivoli Directory Server as the underlying software for the SESA Directory.

If the SESA DataStore will be on a computer other than the one on which you are installing the SESA Directory, the SESA Directory requires that you use a supported version of the IBM DB2 software.

See [“Supported third-party software for the SESA Directory”](#) on page 220.

When no IBM DB2 installations are present and the SESA DataStore will not be installed on the same computer, the SESA Installation Wizard installs a restricted version of the IBM DB2 8.1 Enterprise Server Edition.

If you are installing the SESA DataStore on the same Windows computer as the SESA Directory, and IBM DB2 Personal Edition is already installed on the computer, the SESA DataStore integrates with IBM DB2 Personal Edition. IBM DB2 Personal Edition requires that the SESA Manager also be installed on the same computer, or it won't be able to process events to the SESA DataStore. Therefore, if you are installing the SESA Directory on a separate computer than the SESA Manager, you must already have IBM DB2 Workgroup Edition or

Enterprise Edition installed on the Windows computer before you install the SESA Directory.

On Windows operating systems, to prevent installation failure when you install the SESA Directory over an existing version of IBM Directory Server, ensure that the following conditions are met:

- A SESA DataStore is already installed.  
The existing version of the SESA Directory must already be connected to an existing version of the SESA DataStore. This SESA DataStore must already have an entry in the SESA Directory or the reinstallation fails.  
If the SESA DataStore does not have an entry in the SESA Directory, you must uninstall the SESA Directory rather than install over it.
- The existing IBM Directory Server installation was performed using the Typical Install option rather than the Compact or Custom Install option in the installation wizard. Existing IBM DB2 databases and IBM HTTP Servers must also have been installed using a Typical Install option.

---

**Warning:** The IBM DB2 Enterprise Edition 8.1 provided with the SESA Foundation Pack is a restricted version. It is only intended for use with the SESA Directory and does not serve as an IBM DB2 database for the SESA Datastore. If you attempt to install the SESA DataStore using this edition of the IBM DB2 Universal Database, your SESA DataStore installation will fail.

---

IBM DB2 Enterprise Edition installs with FixPak 2. After you install the SESA directory, you must apply FixPak 6a to IBM DB2 Enterprise Edition.

#### To start the SESA Directory installation on a Windows computer

- 1 On the SESA Directory computer, start the SESA Installation Wizard.  
See [“Starting the SESA Installation Wizard”](#) on page 134.
- 2 In the SESA Install Menu, click **Custom Install**.
- 3 In the SESA Install Menu panel that appears, click **Install SESA Directory**.



- 4 If you are installing the SESA Foundation Pack that includes a limited version of IBM DB2 Enterprise Server Edition, and you have not previously installed a supported version of IBM DB2, the SESA Install Wizard provides a choice between the IBM DB2 Enterprise Server Edition and the Personal Edition.
  - Click **Yes** to install the Enterprise edition.
  - Click **No** to go to a panel that will allow you to install Personal Edition. If a wizard panel appears that asks you to choose whether or not to install IBM DB2 Personal Edition, click **Yes**. This version of IBM DB2 is intended for demonstration or test environments only.
- 5 In the Select Working Directory panel, accept the default location or select another location.

SESA requires a folder on your hard drive as a working directory and storage location. If you are going to install the SESA DataStore on the same computer, the drive on which the folder resides should have at least 800 MB of free space. Otherwise, it needs approximately 20 MB of free space.
- 6 In the Local SESA Directory Master panel, do the following for the SESA Directory installation:

Directory Server Path	Type the location of the SESA Directory (by default, C:\Program Files\IBM\LDAP).
Administrator Name	Type the name for the IBM Directory Server administrator account in the form cn=<name> (by default, cn=root).
Administrator Password	Type and confirm a Directory Administrator password.
IP Address	Type the IP address of the computer on which the SESA Directory is being installed. SESA Managers use this IP address to communicate with the SESA Directory.  If connections to the SESA Directory computer are made using authenticated SSL, you must type the host name or FQDN of the computer instead of the IP address.
Directory port number	Type the secure listening port for the SESA Directory (by default 636). SESA Managers use this port to communicate with the SESA Directory.

- 7

In the SESA Domain panel, type a unique name for the SESA administrative domain.

High-ASCII characters are allowed, but do not use special characters such as !, @, #, \$, %, >, &, and \*, or characters from a double-byte character set (DBCS).

The name appears in the Symantec management console navigational tree as the top-level administrative domain.

You can add additional SESA domains after you install the SESA Foundation Pack.

See [“Installing additional SESA domains”](#) on page 198.
- 8

In the SESA Administrator panel, type and confirm a password for the SESA Directory Administrator account.

The SESA Directory Administrator password must be between six and twelve alphanumeric characters. This account is intended for top-level SESA Administrators who need access to the entire SESA Directory tree for installing SESA DataStores and SESA Managers. You can use this account to log onto the Symantec management console after installation.

SESA provides the user name of SESAdmin.
- 9

In the SESA Directory Domain Administrator panel, do the following for the SESA Domain Administrator account:

Domain Administrator	Type the name for the SESA Domain Administrator account. This account provides access to its associated SESA administrative domain. Use this Domain Administrator name and password to log onto a particular SESA administrative domain (and SESA Manager) after the SESA installation is complete.
Domain Administrator Password	Type and confirm a Domain Administrator password (between six and twelve alphanumeric characters).
Select Preferred Language	Select the language of the SESA Manager. The default language is English. If you install non-English security products, you must install them in the same language as the SESA Manager.

- 10 In the SESA Secure Communications panel, to create the key database for self-signed SSL certificates, do the following:

Key Database Password	Type and confirm a password for the key database of six alphanumeric characters minimum. High-ASCII and DBCS characters are not allowed.
Company	Type the company name. High-ASCII and DBCS characters are not allowed.
Country	Type the company location.
Select host IP Address	Type the IP address of the computer on which the SESA Manager is being installed.  If connections to the SESA Manager computer are made using authenticated SSL, you must type the host name or FQDN of the computer instead of the IP address.
Key size (bits)	Type the encryption length in bits for the default, self-signed certificate that SESA uses to secure data communication. The default setting of 1024 bits is standard. The longer the key size, the higher the security of the data encryption. However, the higher the security of the data encryption, the longer the amount of time required to encrypt and decrypt data.

- 11 If an existing installation of IBM DB2 Workgroup Edition or Enterprise Edition is not present on the computer, in the DB2 Personal Edition Installation panel, type the requested logon and location information.
- 12 If the SESA Installation Wizard prompts you to set up a valid Windows NT user account, click **Yes**.  
The SESA Installation Wizard displays this message if the Login Name and Password pair that you specified for the IBM DB2 server is not currently a Windows account.
- 13 In the Insert SESA CD dialog box, when you are prompted, select the location of the requested installation files, which are located on the SESA distribution media.  
The SESA Installation Wizard reports the status of the components that are being installed using the specified logons, passwords, paths, and ports information.
- 14 Follow the on-screen instructions.
- 15 When you are prompted, restart the computer.  
The restart is required to initialize the SESA Directory.

### To finish the SESA Directory installation on a Windows computer

- 1 After you restart your computer, in the Welcome to the SESA Installation panel, click **Next**.
- 2 Follow the on-screen instructions until you reach the SESA Install Menu panel.
- 3 In the SESA Install Menu panel, do one of the following:
  - Click **Install SESA DataStore** to install the SESA DataStore on the same computer using the SESA Installation Wizard.  
See [“Installing the SESA DataStore”](#) on page 151.
  - Click **Exit SESA Installer**, click **Next**, and then, in the SESA Installation Successful panel, click **Finish** to exit the SESA Installation Wizard.

## Installing the SESA Directory on a Solaris computer

The SESA Installation Wizard installs the IBM Tivoli Directory Server 5.2 as the underlying software for the SESA Directory.

If the SESA DataStore will reside on a computer other than the one on which you are installing the SESA Directory, the SESA Directory requires a supported version of the IBM DB2 software.

See [“Supported third-party software for the SESA Directory”](#) on page 220.

Before you install the SESA Directory, you must install the IBM DB2 database server. If the database server is not installed, the SESA Installation Wizard generates an error message. The SESA Foundation Pack distribution media includes IBM DB2 Enterprise Edition 8.1 with FixPak 2. You must also apply FixPak 6a to the database.

See [“Installing IBM DB2 Enterprise Edition on a Solaris computer”](#) on page 108.

### To install the SESA Directory on a Solaris computer

- 1 On the SESA Directory computer, start the SESA Installation Wizard.  
See [“Starting the SESA Installation Wizard”](#) on page 134.
- 2 When you are prompted to supply a location for temporary installation files, do one of the following:
  - Accept the default location as long as it has at least 75 MB of hard disk space available.
  - Type a location or click **Browse** to find a different location that has 75 MB of hard disk space available.
- 3 In the introductory wizard panels, review and type the requested information, and then click **Next**.

- 4 In the SESA Preinstallation Requirements Summary panel, confirm that the computer to which you are installing is running Sun Solaris version 8 (64-bit).  
In addition, the computer must already have an installation of IBM DB2 Workgroup Edition or Enterprise Edition 8.1 with FixPak 6a present.
- 5 In the SESA Install Menu panel, click **Install SESA Directory**, and then click **Next**.
- 6 In the Select Working Directory panel, accept the default location of /opt/Symantec/SESA or select another location, and then click **Next**.  
SESA requires a folder on your hard drive with 20 MB of free disk space as a working directory.
- 7 In the Local SESA Directory Master panel, do the following for the SESA Directory installation:

Directory Server Path	Type the location of the SESA Directory (by default, /opt).
Administrator Name	Type the name for the IBM Directory Server administrator account in the form cn=<name> (by default, cn=root).
Administrator Password	Type a Directory Administrator password. An account with a password is required.
IP Address	Type the IP address of the computer on which the SESA Directory is being installed. SESA Managers use this IP address to communicate with the SESA Directory.  If connections to the SESA Directory computer are made using authenticated SSL, you must type the host name or FQDN of the computer instead of the IP address.
Directory port number	Type the secure listening port for the SESA Directory (by default, 636). SESA Managers use this port to communicate with the SESA Directory.

- 8 In the Domain Selection panel, type a unique name for the SESA administrative domain.  
To type high-ASCII characters and special characters such as !, @, #, \$, %, >, &, and \* , use the Compose key on the Solaris keyboard.  
For example, to type the copyright symbol, use the key sequence, Compose+c+o. Characters from the double-byte character set (DBCS) are not allowed.

The name appears in the Symantec management console navigational tree as the top-level administrative domain.

You can add additional SESA domains after you install the SESA Foundation Pack.

See [“Installing additional SESA domains”](#) on page 198.

- 9
- In the SESA Administrator panel, type a password for the SESA Directory Administrator account.  
The SESA Directory Administrator password must be between six and twelve alphanumeric characters. This account is intended for top-level SESA administrators who need access to the entire SESA Directory tree for installing SESA DataStores and SESA Managers. You can use this account to log onto the Symantec management console after installation.  
SESA provides the user name SESAdmin.
- 10
- In the SESA Directory Domain Administrator panel, do the following for the SESA Domain Administrator account:

Domain Administrator	Type the name for the SESA Domain Administrator account. This account provides access to its associated SESA administrative domain. Use this Domain Administrator name and password to log onto a particular SESA administrative domain (and SESA Manager) after the SESA installation is complete.
Domain Administrator Password	Type a Domain Administrator password (between six and twelve alphanumeric characters).
Select Preferred Language	Select the language of the SESA Manager. The default language is English. If you install non-English security products, you must install them in the same language as the SESA Manager.

- 11
- In the SESA Secure Communications panel, to create the key database for self-signed SSL certificates, do the following:
- |                       |  |
|-----------------------|--|
| Key Database Password | Type a password for the key database of six alphanumeric characters minimum. High-ASCII and DBCS characters are not allowed. |
| Company               | Type the company name.   |
| Country               | Type the company location.   |

Select host IP Address	Type the IP address of the computer on which the SESA Manager is being installed.  If connections to the SESA Manager computer are made using authenticated SSL, you must type the host name or FQDN of the computer instead of the IP address.
Key size (bits)	Type the encryption length in bits for the default, self-signed certificate that SESA uses to secure data communication. The default setting of 1024 bits is standard. The longer the key size, the higher the security of the data encryption. However, the higher the security of the data encryption, the longer the amount of time required to encrypt and decrypt data.

- 12 In the Insert SESA CD dialog box, when you are prompted, type the location of the IBM Directory Server installation files.  
These files are part of the SESA Foundation Pack installation image. When they are copied to the default staging area, the default location for these files is /u01/Solaris.CD2/
- 13 In the Operation Complete panel, click **Next**.
- 14 In the SESA Install Menu panel, do one of the following:
  - Click **Install SESA DataStore** to continue with the installation.  
Begin with step 4 of [“To install the SESA DataStore for Oracle on a Solaris computer”](#) on page 167.
  - Click **Exit SESA Installer**, click **Next**, and then, in the SESA Installation Successful panel, click **Finish** to exit the SESA Installation Wizard.

## Installing the SESA DataStore

After you install the SESA Directory, you can install one or more SESA DataStores. This installation places the SESA DataStore on a single computer. If you are using an IBM DB2 Universal Database server on Windows or an Oracle database server on Windows as the underlying software for the SESA DataStore, you can install the SESA DataStore with the SESA Directory or the SESA Manager, or with both, or you can install the SESA DataStore remotely on a separate computer.

If you are using Oracle 9i on Solaris as the underlying software for the SESA DataStore, you must install the SESA DataStore on a separate, dedicated Solaris computer.

## Circular Logging and Archive Logging

The SESA DataStore supports the following two types of logging:

- [Circular Logging](#)
- [Archive Logging](#)

### Circular Logging

As the name suggests, circular logging uses a ring of online logs to provide recovery from transaction failures and system crashes. Circular logging does not allow you to roll a database forward through transactions performed after the last full backup operation. All changes that have occurred since the last backup operation are lost. Because this type of restore operation recovers your data to the specific point in time at which a full backup occurred, it is also known as version recovery. This option saves disk space and therefore may be considered lower maintenance.

The database must be offline (inaccessible to users) when a full backup is performed.

### Archive Logging

Archived logs are logs that are active but are no longer required for crash recovery. Archive logging lets you perform backups of the SESA DataStore without having to first stop the IBM DB2 database instance. The advantage of choosing archive logging is that roll-forward recovery can use both archived logs and active logs to rebuild a database either to the end of the logs, or to a specific point in time. Contrast this with circular logging, in which you can only recover to the time of the backup, and all changes made after that are lost.

Archive logging requires regular maintenance to prevent the drive space from being totally consumed by the archive logs.



## Installing a SESA DataStore for IBM DB2 on a Windows computer

You can install a SESA DataStore over an IBM DB2 Universal Database server on a Windows computer as long as a SESA Directory is already installed and functioning on the same or another computer. The SESA DataStore should not be installed on the same computer as the SESA Directory if the restricted version of IBM DB2 8.1 Enterprise Edition is installed on that computer.

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**Note:** If you use the IBM DB2 Universal Database Workgroup Server Edition 8.1 that is included on the SESA Foundation Pack 2.1 with SESA DataStore (IBM DB2 for Windows) distribution media, the following restrictions apply:

- It is intended for use with SESA only, and not for use as a general purpose database.
- Its installation is restricted to a single server with a maximum of four processors.
- It is intended for use by a limited number of users, all of whom must be DB2 system administrators.

Symantec does not provide IBM upgrade insurance or other upgrade insurance as part of the SESA Foundation Pack 2.1 with SESA DataStore (IBM DB2 for Windows). To obtain upgrade insurance for any IBM DB2 databases that you use with SESA, you must contact IBM directly.

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To use SESA in a production environment, a supported version of the database software and FixPak must already be installed. You must ensure that one of the required supported database versions with the correct IBM DB2 FixPak is installed prior to running the SESA Installation Wizard. Installing with an unsupported version or FixPak may result in a failed or corrupt installation.

If none of the supported database servers is present, the SESA Installation Wizard installs IBM DB2 Personal Edition with the supported FixPak.

See [“Supported third-party software for the SESA DataStore”](#) on page 223.

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**Warning:** The Personal Edition of the IBM DB2 database server is not designed to handle the data volume in production networking environments. In addition, the SESA Manager must reside on the same computer as the database server, or the SESA installation does not work.

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To install a SESA DataStore for IBM DB2 on a Windows computer

- 1

On the SESA DataStore computer, start the SESA Installation Wizard.  
See “Starting the SESA Installation Wizard” on page 134.
- 2

In the SESA Install Menu panel, click **Custom Install**, and click **Next**.
- 3

In the Install Menu that appears, click **Install SESA DataStore**, and click **Next**.
- 4

In the SESA DataStore: Database Server Options panel, click **Install SESA DataStore (Use IBM DB2)**.
- 5

In the Select Working Directory panel, accept the default location for the working directory or select another location.  
SESA requires a folder on your hard drive as a working directory and database storage location. The drive on which this folder resides should have at least 817 MB of free space.  
The 817 MB minimum is required only if you plan to install a single SESA DataStore on a single drive. If you plan to install more than one SESA DataStore or a single SESA DataStore across multiple drives, the minimum space requirement decreases according to the actual drive space that you specify for this directory.  
If you have a previously existing SESA component on the computer, this option is unavailable and you must accept the existing working directory.
- 6

In the Existing SESA Directory panel, do the following for the SESA DataStore to connect with the SESA Directory:

SESA Administrator Password	Type a Directory Administrator password for the SESAdmin account.
IP Address	<div>Type the IP address of the computer on which the SESA Directory is installed. This can be the local computer or a remote computer. SESA Managers use this IP address to communicate with the SESA Directory.</div> <div>If connections to the SESA Directory computer are made using authenticated SSL, you must type the host name or FQDN of the computer instead of the IP address.</div>
Directory port number	Type the secure listening port for the SESA Directory (by default, 636). SESA Managers use this port to communicate with the SESA Directory.

- 7 In the Domain Selection panel, correct or confirm the name of the SESA administrative domain that you typed when you installed the SESA Directory. If you have previously installed SESA components locally you are restricted to using the same domain.

The SESA administrative domain name and extension appear in the Symantec management console navigational tree as the top-level administrative domain.

- 8 In the SESA DataStore panel, confirm the default settings or do the following:

SESA DataStore Name	Type a name for the additional SESA DataStore. The name must be different from the name of any other SESA DataStore that exists on the target computer.  The default setting is SESA.
Caption	Type a caption for the SESA DataStore.  The default setting is the name of the computer.
Description	Type a new description, if necessary.  The default setting describes the SESA schema and database driver type.

- 9 In the SESA DataStore: Database Definition Path panel, in the Enter SESA DataStore Database definition path box, accept the default location or click **Browse** to select another location.

The SESA DataStore Database definition path is the location of the SESA DataStore system files.

- 10 In the SESA DataStore: Database Definition Path panel, under SESA DataStore Log Path, do one of the following:

- Accept the default log path for the SESA DataStore.  
The default path is DB2\node0000\<sql00001>\sqllogdir. Depending on the number of SESA DataStores that you install, and the number of IBM DB2 databases, <sql00001> may use a different number.
- Check **This Log path**, and then type a location or browse to the new log path location.  
By default, IBM DB2 stores logs on the same physical drive as the database. As a best practice, select a different physical drive.

- 11
- In the SESA DataStore: Event Data Tablespace Configuration panel, do one of the following, and then click **Next**:
- To install a SESA DataStore with automatically expanding tablespaces, click **Low maintenance**.  
You can allocate more than one physical drive for tablespace containers.  
See “[Allocating additional physical drives for tablespace containers in low maintenance mode](#)” on page 158.
- To install a SESA DataStore with tablespaces that must be manually increased, click **High performance**.  
You can specify more than one physical drive for tablespace containers as well as allocate the amount of available disk per drive.  
If you select this option, you must ensure that any antivirus Realtime scanning is turned off before the SESA DataStore is installed. You can reenable Realtime scanning after the SESA DataStore installation.  
See “[Allocating additional physical drives for tablespace containers in high performance mode](#)” on page 158.
- 12
- In the first SESA DataStore: Tuning panel, confirm the default settings or do the following:

Number of CPU	Type the number of CPUs available on the DataStore computer.
Available Memory	Choose a setting from the dropdown list. The option chosen determines the default setting for the Buffer Pool size setting in the subsequent wizard panel.
Number of Disks	Type the number of hard disks to be used by the DataStore.

- 13
- In the second SESA DataStore: Tuning panel, confirm the following settings or do the following:

Buffer Pool Size	Type a value in MB. The buffer pool is a temporary storage area in RAM used by the SESA DataStore. It allows the computer to manipulate data before transferring it to the hard disk.
Extent Size	Type a value in KB. The extent size is the amount of contiguous storage space available to data. The larger the extent size, the faster the database fills. The smaller the extent size, the faster the database becomes fragmented.

Circular Logging/  
Archive Logging

Click **Circular Logging** to enable only full, offline backups of the database.

See “[Circular Logging](#)” on page 152.

Click **Archive Logging** to enable roll-forward database recovery.

See “[Archive Logging](#)” on page 152.

SESA DataStore/IBM  
DB2 backup directory

Available for archive logging only. Type a location or click **Browse** to navigate to the location of the backup directory for the IBM DB2 SESA DataStore.

The default Windows location is C:\SESA\symc\_data.

The default Solaris location is /opt/Symantec/SESA/  
symc\_data.

Depending on how many computers you are using to deploy the SESA Manager, SESA Directory, and SESA DataStore, Buffer Pool Size and Extent Size may work better with certain recommended values.

See “[IBM DB2 database memory usage specifications](#)” on page 231.

- 14 In the Local SESA DataStore panel, do the following for the SESA DataStore installation:

Database Administrator  
Name

Type the administrator account name for the SESA DataStore. This account was created when the IBM DB2 database server was installed.

Database Administrator  
Password

Type an administrator account password of six or more alphanumeric characters. An account with a password is required.

Host Name or IP Address

Type the IP address of the computer on which the SESA DataStore is being installed.

Database port number

Type the listening port for the SESA DataStore (by default, 50000).

This installs the SESA DataStore on the computer on which you are running the SESA Installation Wizard.

- 15 After the SESA Installation Wizard completes the necessary configuration tasks, in the Operation Complete panel, click **Next**.

- 16 In the SESA Install Menu panel, click **Exit SESA Installer**, click **Next**, and then in the SESA Installation Successful panel, click **Finish** to exit the SESA Installation Wizard.
- 17 If necessary, install another SESA DataStore and then restart the computer. See [“Installing an additional SESA DataStore for IBM DB2 on a Windows computer”](#) on page 160.

## Allocating additional physical drives for tablespace containers in low maintenance mode

To improve database performance, the SESA Installation Wizard lets you install the tablespace containers in the SESA DataStore across multiple Windows physical drives. When you install tablespace containers across multiple physical drives, the system files for the SESA DataStore remain in one location, but the data is spread across the drives that you specify.

### To allocate additional physical drives for tablespace containers in low maintenance mode

- 1 In the SESA DataStore: Event Data Tablespace Configuration panel, click **Low maintenance**, and then click **Add**.
- 2 In the Select Container dialog box, under Drives, select one of the drives on which to install tablespace containers.
- 3 Repeat step 2 for the other drives.
- 4 To return to the SESA DataStore: Event Data Tablespace Configuration panel, click **OK**.
- 5 To remove a drive, select the drive, and then click **Remove**.

## Allocating additional physical drives for tablespace containers in high performance mode

To improve database performance, the SESA Installation Wizard provides the option of installing SESA DataStore tablespace containers across multiple Windows physical drives and then specifying the amount of drive disk space to allocate for the tables. When you install tablespace containers across multiple physical drives, the system files for the SESA DataStore remain in one location, but the data is spread across the drives that you specify.

---

**Note:** If you use high performance mode, you must ensure that any antivirus Realtime scanning is turned off before the SESA DataStore is installed. You can reenable Realtime scanning after the SESA DataStore installation.

---

**To allocate additional physical drives for tablespace containers in high performance mode**

- 1 In the SESA DataStore: Event Data Tablespace Configuration panel, click **High performance**, and then click **Add**.
- 2 In the Select Container dialog box, under Drive, select one of the drives on which to install tablespace containers.
- 3 In the Size box, type the amount of space, in MB, to allocate for the tablespace container on that drive.
- 4 Repeat steps 2 and 3 for the other drives.  
Ensure that the total allocated space is at least 800 MB. Do not exceed 1024 GB of total allocated space. To calculate the amount of space that you need, assume that each event is 1.5 KB.
- 5 To return to the SESA DataStore: Event Data Tablespace Configuration panel, click **OK**.
- 6 To modify the space that is allocated for a particular drive, click **Modify**.
- 7 In the Select Container dialog box, under Drive, select the drive to modify.
- 8 In the Size box, retype the amount of space, in MB, to allocate for the tablespace container on the drive.
- 9 To return to the SESA DataStore: Event Data Tablespace Configuration panel, click **OK**.
- 10 To remove a drive, select the drive, and then click **Remove**.

**Retrying an IBM DB2 database installation**

If you cancel the SESA Installation Wizard while you are installing the SESA DataStore on an already installed IBM DB2 database, or the wizard stops or fails for any reason, the IBM DB2 database may be left in an inconsistent state.

You can use the wizard again to retry the SESA DataStore installation, but only after you have dropped the database instance to return IBM DB2 to a consistent state.

For more information on dropping an IBM DB2 database instance, see the *Symantec Enterprise Security Architecture Administrator's Guide*.

## Installing an additional SESA DataStore for IBM DB2 on a Windows computer

After you have installed the initial SESA DataStore, depending on your requirements, you may want to install one or more additional SESA DataStores. You can install additional SESA DataStores on the same IBM DB2 Universal Database instance as the first SESA DataStore.

You may want to use two or more SESA DataStores if you have different needs for event viewing in the Symantec management console, or want to separate product event data into separate SESA DataStores.

---

**Note:** The sum of the bufferpools for all SESA DataStores using DB2 on a single Windows computer, should not exceed 1.5 GB. This is due to the 2 GB memory limit a process can use and the fact that all SESA DataStores using DB2 are created in the same instance.

---

### To install an additional SESA DataStore for IBM DB2 on a Windows computer

- 1 On the SESA DataStore computer, start the SESA Installation Wizard. See [“Starting the SESA Installation Wizard”](#) on page 134.
- 2 In the SESA Install Menu panel, click **Custom Install**, and click **Next**.
- 3 In the Install Menu that appears, click **Install SESA DataStore**, and click **Next**.
- 4 In the SESA DataStore: Database Server Options panel, click **Install Additional SESA DataStore (DB2)**.
- 5 The installation procedure for installing an additional DataStore is the same as the procedure to install the initial SESA DataStore. Follow the instructions for installing a SESA DataStore beginning with step 5. See [“Installing a SESA DataStore for IBM DB2 on a Windows computer”](#) on page 153.



## Installing a SESA DataStore for Oracle 9i on a Windows computer

You can install a SESA DataStore over an Oracle database server on a Windows computer as long as a SESA Directory is already installed and functioning on the same or another computer. You must use Oracle 9i database software with the latest Oracle cluster patch.

Before you install the SESA DataStore, you should complete the following tasks:

- Install the Oracle database server.
- Create a SESA database on the Oracle database server.
- Create and grant privileges to an Oracle database user.

SESA 2.1 provides installation scripts to help you prepare Oracle 9i as the database software on a Windows computer.

See [“Preparing for and installing Oracle 9i on a Windows computer”](#) on page 83.

### To install the SESA DataStore for Oracle on a Windows computer

- 1 On the SESA DataStore computer, start the SESA Installation Wizard.  
See [“Starting the SESA Installation Wizard”](#) on page 134.
- 2 When you are prompted to supply a location for temporary installation files, do one of the following:
  - Accept the default location as long as it has at least 75 MB of hard disk space available.
  - Type a location or click **Browse** to find a different location that has 75 MB of hard disk space available.
- 3 In the introductory wizard panels, review and type the requested information, and then click **Next**.
- 4 In the SESA Preinstallation Requirements Summary panel, confirm that the computer to which you are installing has an existing installation of Oracle 9i for Windows.
- 5 In the SESA Install Menu panel, click **Install SESA DataStore**.
- 6 In the SESA DataStore: Database Server Options panel, click **Install SESA DataStore (Use Oracle)**.
- 7 In the Select Working Directory panel, accept the default location of C:\SESA, or select another location.  
SESA requires a folder on your hard drive with 50 MB of free disk space as a working directory.  
If you have an existing SESA component on the computer, then this option is unavailable and you must accept the current working directory.

- 8

In the Install SESA DataStore on Oracle panel, click **Next**.

You must have installed the Oracle 9i for Windows database software, and run the Oracle installation scripts to prepare and configure the Oracle database.

See [“Preparing for and installing Oracle 9i on a Windows computer”](#) on page 83.
- 9

In the Existing SESA Directory panel, do the following for the SESA DataStore to connect with the SESA Directory:

SESA Directory Administrator Password	Type the password for the SESAdmin user.
IP Address	<p>Type the IP address of the computer on which the SESA Directory is installed. This can be the local computer or a remote computer. SESA Managers use this IP address to communicate with the SESA Directory.</p> <p>If connections to the SESA Directory computer are made using authenticated SSL, you must type the host name or FQDN of the computer instead of the IP address.</p> <p>Because the default location is the local computer, you must modify this address before continuing.</p>
Directory port number	Type the secure listening port for the SESA Directory (by default, 636). SESA Managers use this port to communicate with the SESA Directory.
- 10

In the Domain Selection panel, select the SESA administrative domain that you typed when you installed the SESA Directory.

The SESA administrative domain name appears in the Symantec management console navigational tree as the top-level administrative domain.

- 11 In the SESA DataStore panel, confirm the information for the SESA DataStore installation, or do the following:

SESA DataStore Name	Type the name of the Oracle database (ORACLE_SID) that you want to use for the SESA DataStore. The default is SESA.
Caption	Type an additional identifier for the SESA DataStore. The default is the computer name. SESA DataStores are identified in the Symantec management console by the combination of the Caption and the SESA DataStore Name.
Description	Type an additional description of the database. The default description includes the type of SESA DataStore, the schema, and the Oracle driver type.

- 12 In the Local SESA DataStore panel, confirm the default settings or do the following for the SESA DataStore installation:

Database Administrator Name	Type the Database Administrator name <b>symcmgmt</b> . The symcmgmt Database Administrator account is created when the Oracle installation script batch file runs the create.sql script.
Database Administrator Password	Type the password for the symcmgmt Database Administrator account. The default password given to this account by the create.sql script is password.
IP Address	Type the IP address of the computer on which the SESA DataStore is being installed.
Database port number	Type the listening port for the SESA DataStore (by default, 1521).

- 13 In the Database Driver Directory panel, type the location of the Oracle driver (classes12.jar) or click **Browse** to navigate to this location. The default location is /MANAGER/LIB. The SESA Installation Wizard reports the status of the components that are being installed using the specified logons, passwords, paths, and ports information.
- 14 In the Operation Complete panel, click **Next**.

- 15 In the SESA Install Menu panel, click **Next**.
- 16 In the SESA Installation Successful panel, click **Finish** to exit the SESA Installation Wizard.

## Installing additional SESA DataStores for Oracle 9i on a Windows computer

SESA allows you to install multiple SESA DataStores. You may want to use two or more SESA DataStores if you have different needs for event viewing in the Symantec management console, or want to separate product event data into separate SESA DataStores.

Each SESA DataStore is supported by a separate Oracle database. These databases must be created and configured prior to running the SESA Installation Wizard.

See [“Creating one or more Oracle 9i databases for SESA on Solaris”](#) on page 119.

See [“Creating one or more Oracle 9i databases for SESA on Windows”](#) on page 85.

After the supporting databases have been created and the necessary Oracle installation scripts configured, you can run the SESA Installation Wizard to integrate the SESA DataStores into SESA.

### To install additional SESA DataStores for Oracle 9i on a Windows computer

- 1 On the SESA DataStore computer, start the SESA Installation Wizard.  
See [“Starting the SESA Installation Wizard”](#) on page 134.
- 2 Follow the on-screen instructions, without modifying existing settings, until you reach the SESA Install Menu panel.
- 3 In the SESA Install Menu panel, click **Advanced Options**, and then click **Next**.
- 4 In the SESA Advanced Install Menu, click **Install Additional SESA DataStore (Oracle)**, and then click **Next**.
- 5 In the Select Working Directory panel, accept the default location of C:\SESA, or select another location.  
SESA requires a folder on your hard drive with 50 MB of free disk space as a working directory.  
If you have an existing SESA component on the computer, then this option is unavailable and you must accept the current working directory.
- 6 In the Install SESA DataStore on Oracle panel, click **Next**.

- 7 In the Existing SESA Directory panel, do the following for the additional SESA DataStore to connect with the SESA Directory:

SESA Administrator Password	Type the password for the SESAdmin user.
IP Address	<p>Type the IP address of the computer on which the SESA Directory is installed. This can be the local computer or a remote computer. SESA Managers use this IP address to communicate with the SESA Directory.</p> <p>If connections to the SESA Directory computer are made using authenticated SSL, you must type the host name or FQDN of the computer instead of the IP address.</p>
Directory port number	Type the secure listening port for the SESA Directory (by default, 636). SESA Managers use this port to communicate with the SESA Directory.

- 8 In the Domain Selection panel, select the SESA administrative domain that you typed when you installed the SESA Directory.

The SESA administrative domain name appears in the Symantec management console navigational tree as the top-level administrative domain.

- 9 In the SESA DataStore panel, confirm the default settings or do the following:

SESA DataStore Name	Type a name for the additional SESA DataStore. The name must match the ORACLE_SID for the particular database, and must be different from other SESA DataStore names.
Caption	<p>Type a caption for the additional SESA DataStore.</p> <p>The default setting is the name of the computer.</p>
Description	<p>Type a new description, if necessary.</p> <p>The default setting describes the SESA schema and database driver type.</p>

10 In the Local SESA DataStore panel, confirm the default settings or do the following for the SESA DataStore installation:

Database Administrator Name	Type the Administrator account name for the SESA DataStore. You must have created a symcmgmt user as the Oracle administrator prior to starting the SESA Installation Wizard.
Database Administrator Password	Type the Administrator account password of six or more alphanumeric characters. An account with a password is required.
Host Name or IP Address	Type the IP address of the computer on which the SESA DataStore is being installed.
Database port number	Type the listening port for the SESA DataStore (by default, 1521).

This installs the additional SESA DataStore on the computer on which you are running the SESA Installation Wizard.

- 11 In the Database Driver Directory panel, type the location in which the Oracle driver (classes12.jar) is installed, or click **Browse** to navigate to this location. The default location is MANAGER/LIB.  
The SESA Installation Wizard reports the status of the components that are being installed using the specified logons, passwords, paths, and ports information.
- 12 In the Operation Complete panel, click **Next**.
- 13 After the SESA DataStore finishes installing, repeat this procedure for each additional SESA DataStore.

## Installing the SESA DataStore for Oracle on a Solaris computer

You can install the SESA DataStore over an Oracle database server on a dedicated Solaris computer. You must already have installed and prepared Oracle 9i (version 9.0.x to 9.2.0.x) on the Solaris computer. The SESA Integration Wizard does not detect whether the Oracle database server is already installed.

Before you install the SESA DataStore, you should complete the following tasks:

- Install the Oracle database server.
- Create a SESA database on the Oracle database server.
- Create and grant privileges to an Oracle database user.

See [“Preparing for and installing Oracle 9i on a Solaris computer”](#) on page 112.

In addition, the SESA Directory must already be installed and functioning on another Solaris or Windows computer.

Remote installations are convenient when the Solaris computer on which the SESA DataStore is to be installed does not have a video card or monitor, or is not physically accessible to you. You can use Telnet sessions to access the installation computer remotely.

However, because the SESA Installation Wizard has a graphical user interface associated with it, you must export the display of the installation computer.

### To install the SESA DataStore for Oracle on a Solaris computer

- 1 On the SESA DataStore computer, start the SESA Installation Wizard.  
See [“Starting the SESA Installation Wizard”](#) on page 134.
- 2 When you are prompted to supply a location for temporary installation files, do one of the following:
  - Accept the default location as long as it has at least 75 MB of hard disk space available.
  - Type a location or click **Browse** to find a different location that has 75 MB of hard disk space available.
- 3 In the introductory wizard panels, review and type the requested information, and then click **Next**.
- 4 In the SESA Preinstallation Requirements Summary panel, confirm that the computer to which you are installing is running Sun Solaris version 8 (64-bit).  
In addition, the computer must have an existing installation of Oracle 9i.
- 5 In the SESA Install Menu panel, click **Install SESA DataStore**.
- 6 In the SESA DataStore: Database Server Options panel, click **Install SESA DataStore (Use Oracle)**.
- 7 In the Select Working Directory panel, accept the default location of /opt/Symantec/SESA or select another location.  
If you have an existing SESA component on the computer, then you must accept the current working directory.  
SESA requires a folder on your hard drive with 817 MB of free disk space as a working directory.
- 8 In the Install SESA DataStore on Oracle panel, review the preparation steps and verify that they have been completed.
- 9 Verify that the Oracle database instance that you want to use for the SESA DataStore and the Oracle listener are both running.

- 10
- If necessary, type the following commands to start the database:  
`sqlplus /nolog`  
`connect / as sysdba`  
`startup`
- 11
- If necessary, type the following command to start the Oracle listener:  
`lsnrctl start`
- 12
- Click **Next**.
- 13
- In the Existing SESA Directory panel, do the following for the SESA DataStore to connect with the SESA Directory:

SESA Directory Administrator Password	Type the password for the SESAdmin user.
IP Address	<p>Type the IP address of the computer on which the SESA Directory is installed. This can be the local computer or a remote computer. SESA Managers use this IP address to communicate with the SESA Directory.</p> <p>If connections to the SESA Directory computer are made using authenticated SSL, you must type the host name or FQDN of the computer instead of the IP address.</p> <p>Because the default location is the local computer, you must modify this address before continuing.</p>
Directory port number	Type the secure listening port for the SESA Directory (by default, 636). SESA Managers use this port to communicate with the SESA Directory.

- 14
- In the Domain Selection panel, click the name of the SESA administrative domain that you typed when you installed the SESA Directory from the drop-down list.  
The SESA administrative domain name appears in the Symantec management console navigational tree as the top-level administrative domain.



- 15 In the SESA DataStore panel, confirm the information for the SESA DataStore installation, or do the following:

SESA DataStore Name	Type the name of the Oracle database (ORACLE_SID) that you want to use for the SESA DataStore. The default is SESA.
Caption	Type an additional identifier for the SESA DataStore. The default is the computer name. SESA DataStores are identified in the Symantec management console by the combination of the Caption and the SESA DataStore Name.
Description	Type an additional description of the database. The default description includes the type of SESA DataStore, the schema, and the Oracle driver type.

- 16 In the Local SESA DataStore panel, confirm the default settings or do the following for the SESA DataStore installation:

Database Administrator Name	Type the Database Administrator name <b>symcmgmt</b> . The symcmgmt Database Administrator account is created when you run the create.sql script.
Database Administrator Password	Type the password for the symcmgmt Database Administrator account. The default password given to this account by the create.sql script is password.
IP Address	Type the IP address of the computer on which the SESA DataStore is being installed.
Database port number	Type the listening port for the SESA DataStore (by default, 1521).

- 17 In the Database Driver Directory panel, type the location of the Oracle driver (classes12.jar), or click **Browse** to navigate to this location. On the Solaris SESA Foundation Pack CDs, the default location is Solaris.CD1/MANAGER/LIB. The SESA Installation Wizard reports the status of the components that are being installed using the specified logons, passwords, paths, and ports information.
- 18 In the Operation Complete panel, click **Next**.

- 19 In the SESA Install Menu panel, click **Next**.
- 20 In the SESA Installation Successful panel, click **Finish** to exit the SESA Installation Wizard.

## Installing multiple SESA DataStores for Oracle on a Solaris computer

SESA allows you to install multiple SESA DataStores. Each SESA DataStore is supported by a separate Oracle database. These databases must be created prior to running the SESA Installation Wizard.

See [“Creating one or more Oracle 9i databases for SESA on Solaris”](#) on page 119.

Once the supporting databases have been created, you run the SESA Installation Wizard to integrate the SESA DataStores into SESA.

### To install multiple SESA DataStores for Oracle on a Solaris computer

- 1 On the SESA DataStore computer, start the SESA Installation Wizard.  
See [“Starting the SESA Installation Wizard”](#) on page 134.
- 2 Follow the on-screen instructions, without modifying existing settings, until you reach the SESA Install Menu panel.
- 3 In the SESA Install Menu panel, click **Advanced Options**, and then click **Next**.
- 4 In the SESA Advanced Install Menu, click **Install Additional SESA DataStore (Oracle)**, and then click **Next**.
- 5 In the Install SESA DataStore on Oracle panel, verify that you completed the required preinstallation steps for an Oracle SESA DataStore, and then click **Next**.

- 6** In the Existing SESA Directory panel, do the following for the additional SESA DataStore to connect with the SESA Directory:

SESA Administrator Password	Type the Directory Administrator password for the SESAdmin account.
IP Address	<p>Type the IP address of the computer on which the SESA Directory is installed. This can be the local computer or a remote computer. SESA Managers use this IP address to communicate with the SESA Directory.</p> <p>If connections to the SESA Directory computer are made using authenticated SSL, you must type the host name or FQDN of the computer instead of the IP address.</p>
Directory port number	Type the secure listening port for the SESA Directory (by default, 636). SESA Managers use this port to communicate with the SESA Directory.

- 7** In the Domain Selection panel, select the name of the SESA administrative domain that you typed when you installed the SESA Directory from the drop-down list.

The SESA administrative domain name appears in the Symantec management console navigational tree as the top-level administrative domain.

- 8** In the SESA DataStore panel, confirm the default settings or do the following:

SESA DataStore Name	Type a name for the additional SESA DataStore. The name must be different from other SESA DataStore names.
Caption	<p>Type a caption for the additional SESA DataStore.</p> <p>The default setting is the name of the computer.</p>
Description	<p>Type a new description, if necessary.</p> <p>The default setting describes the SESA schema and database driver type.</p>

- 9 In the Local SESA DataStore panel, confirm the default settings or do the following for the SESA DataStore installation:

Database Administrator Name	Type the Administrator account name for the SESA DataStore. You must have created a symcmgmt user as the Oracle administrator prior to starting the SESA Installation Wizard.
Database Administrator Password	Type the Administrator account password of six or more alphanumeric characters. An account with a password is required.
Host Name or IP Address	Type the IP address of the computer on which the SESA DataStore is being installed.
Database port number	Type the listening port for the SESA DataStore (by default, 1521).

This installs the additional SESA DataStore on the computer on which you are running the SESA Installation Wizard.

- 10 In the Database Driver Directory panel, type the location in which the Oracle driver (classes12.jar) is installed or click **Browse** to navigate to this location. On the Solaris SESA Foundation Pack CDs, the default location is Solaris.CD1/MANAGER/LIB.  
The SESA Installation Wizard reports the status of the components that are being installed using the specified logons, passwords, paths, and ports information.
- 11 In the Operation Complete panel, click **Next**.
- 12 After the SESA DataStore finishes installing, repeat this procedure for each additional SESA DataStore.

## Installing the SESA Manager

After you install the SESA Directory and SESA DataStore, you can install the SESA Manager. The SESA Installation Wizard installs the SESA Manager on a single computer. On all-Windows platforms, you can install the SESA Manager with the SESA Directory or the SESA DataStore, or both. On all-Solaris platforms, however, you must separate the SESA DataStore (Oracle 9i database server) from all of the other SESA components. This means that you can install the SESA Manager with the SESA Directory, or by itself, but you cannot install it on the same computer as the SESA DataStore. When you use Oracle 9i for the SESA DataStore, you must separate the SESA DataStore from all of the other SESA components.

See [“SESA Foundation Pack installation overview”](#) on page 131.

For installations in which you are using the IBM DB2 Universal Database server as the SESA DataStore, and are going to install the SESA Manager (Solaris or Windows platform) on a separate computer, you must also install the supported IBM DB2 Runtime Client and FixPak on the SESA Manager computer to support the remote connection with the IBM DB2 Universal Database server (the SESA DataStore). You must install the IBM DB2 Runtime Client on the SESA Manager computer before you install the SESA Manager.

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**Note:** After you install the IBM DB2 Runtime Client you must restart the computer before installing the SESA Manager.

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See [“Supported third-party software for the SESA Manager”](#) on page 226.

## Installing the SESA Manager on a Windows computer

You install the SESA Manager after the SESA Directory and SESA DataStore have been installed. If the SESA Directory or SESA DataStore is installed on a Windows computer, you can install the SESA Manager along with one or both of these other SESA components.

If the computer on which you are installing the SESA Manager is also hosting Microsoft Internet Information Server (IIS), ensure that the World Wide Web Publishing Service is stopped.

See [“Avoiding Microsoft Internet Information Server conflicts”](#) on page 55.

For installation configurations in which the SESA Manager is installed on a different Windows computer than the IBM DB2 database server (SESA DataStore), you must first install the IBM DB2 Runtime Client on the SESA Manager computer, and then restart the SESA Manager computer before you can install the SESA Manager.

### To install the SESA Manager on a Windows computer

- 1 On the SESA Manager computer, start the SESA Installation Wizard.  
See [“Starting the SESA Installation Wizard”](#) on page 134.
- 2 In the SESA Install Menu panel, click **Custom Install**, and then click **Next**.
- 3 In the SESA Install Menu panel that appears, click **Install SESA Manager**, then click **Next**.

- 4
- In the Select Working Directory panel, do the following:
- For the Working Directory, accept the default location or select another location.  
SESA requires a folder on your hard drive as the working directory. The drive on which this folder resides should have at least 20 MB of free space.
- For the Manager Log Directory, accept the default location or select another location for SESA Manager logs.  
This is the directory to which the SESA Manager will write its working logs.

If you have a SESA component on this computer, this option will be unavailable and you must accept the already existing working directory.

- 5
- In the Existing SESA Directory panel, do the following for the SESA DataStore to connect with the SESA Directory:

SESA Directory Administrator Password	Type the password for the SESAdmin user.
IP Address	<div>Type the IP address of the computer on which the SESA Directory is installed. This can be the local computer or a remote computer. SESA Managers use this IP address to communicate with the SESA Directory.</div> <div>If connections to the SESA Directory computer are made using authenticated SSL, you must type the host name or FQDN of the computer instead of the IP address.</div>
Directory port number	Type the secure listening port for the SESA Directory (by default, 636). SESA Managers use this port to communicate with the SESA Directory.

- 6
- In the Domain Selection panel, from the dropdown list, select the name of the SESA administrative domain that you typed when you installed the SESA Directory. If you have previously installed any SESA components on the local computer, the domain selection is restricted.  
The SESA administrative domain name appears in the Symantec management console navigational tree as the top-level administrative domain.

- 7 In the Manager Organizational Unit panel, select one of the following:
  - Managers: Store information about the SESA Manager in the Managers organizational unit.
  - Default: Store information about the SESA Manager in the Default organizational unit.

You can view the organizational unit that you select in the Symantec management console.

For more information, see the *Symantec Management Console User's Guide*.

- 8 In the SESA DataStore panel, select the SESA DataStore to configure for the SESA Manager.
- 9 In the Java SDK Directory panel, confirm the location in which you installed the Java Software Development Kit (SDK).
- 10 If the Web Server Installation panel appears, do the following for a Windows user account:

Web Server Directory	Type the path for the IBM HTTP Server installation (by default, C:\Program Files\IBM Http Server).
Login Name	Type the logon name for the Windows account of the computer on which the IBM HTTP Server is being installed. If the account does not exist, it is created.
Password	Type the password for the account. An account with a password is required.

This panel appears only when the SESA Directory is installed on a different computer.

- 11 If Microsoft IIS is installed on the computer, in the dialog box that prompts you to stop and configure IIS or continue, click **Yes**.
- 12 If a Windows account has not previously been created for the IBM HTTP Server, in the dialog box that prompts you to set up a Windows NT account, click **Yes**.
- 13 If the SESA Secure Communications panel appears, do the following to create the key database for self-signed SSL certificates:

Key Database Password	Type a password for the key database of six alphanumeric characters minimum. High-ASCII and DBCS characters are not allowed.
Company	Type the company name. High-ASCII and DBCS characters are not allowed.

Country	Select a country from the dropdown list.
Select host IP Address	Type the IP address of the computer on which the SESA Manager is being installed.  If connections to the SESA Manager computer are made using authenticated SSL, you must type the host name or FQDN of the computer instead of the IP address.
Key size (bits)	Type the encryption length in bits for the default, self-signed certificate that SESA uses to secure data communication. The default setting of 1024 bits is standard. The longer the key size, the higher the security of the data encryption. However, the higher the security of the data encryption, the longer the amount of time required to encrypt and decrypt data.

This panel appears only when the SESA Directory is installed on a different computer.

- 14
- In the SESA Agent Listen IP panel, confirm that the SESA Agent heartbeat IP address is 0.0.0.0.  
  
The SESA Installation Wizard reports the status of the components that are being installed using the specified logons, passwords, paths, and ports information. The SESA Installation Wizard installs the SESA Manager and SESA Agent on the computer on which you are running the wizard. (Like SESA clients, the SESA Manager must use a SESA Agent to pass data from the computer on which you installed the SESA Manager.)
- 15
- In the SESA Agent panel, confirm the IP address of the SESA Manager computer.  
  
The SESA Installation Wizard configures and installs the SESA Manager. This process may take a while.
- 16
- In the Operation Complete panel, click **Next**.
- 17
- In the SESA Install Menu panel, click **Exit the Installer**.
- 18
- Restart the computer.

## Installing the SESA Manager on a Solaris computer

You must install the SESA Manager after the SESA Directory and SESA DataStore have been installed. If your SESA Directory is installed on a Solaris computer, you can install the SESA Manager on the same computer.

However, if you are using Oracle 9i as the SESA DataStore on a Solaris computer, you must install the SESA Manager and the SESA DataStore on separate computers.



After you install the SESA Manager on a Solaris computer, you must configure and preinstall the `/etc/syslog.conf` file on the SESA Manager computer if you want SESA to log alert notifications.

### To install the SESA Manager on a Solaris computer

- 1 On the SESA Manager computer, start the SESA Installation Wizard.  
See [“Starting the SESA Installation Wizard”](#) on page 134.
- 2 When you are prompted to supply a location for temporary installation files, do one of the following:
  - Accept the default location as long as it has at least 75 MB of hard disk space available.
  - Type a location or click **Browse** to find a different location that has 75 MB of hard disk space available.
- 3 In the introductory wizard panels, review and type the requested information, and then click **Next**.
- 4 In the SESA Preinstallation Requirements Summary panel, confirm that the computer to which you are installing is running the following:
  - Sun Solaris version 8 (64-bit)
  - Java Software Development Kit (SDK) 1.3.1\_09 or later
- 5 In the SESA Install Menu panel, click **Install SESA Manager**.
- 6 In the Select Working Directory panel, do the following:
  - For the Working Directory, accept the default location of `/opt/Symantec/SESA` or select another location.  
The SESA Manager requires a folder on your hard drive as the working directory. The drive on which this folder resides should have at least 20 MB of free space.
  - For the Manager Log Directory, accept the default location of `/opt/Symantec/SESA` or select another location for the SESA Manager logs.  
This is the directory to which the SESA Manager will write its working logs.

If you have a SESA component on this computer, this option will be unavailable and you must accept the existing working directory.

- 7
- In the Existing SESA Directory panel, do the following for the SESA DataStore to connect with the SESA Directory:

SESA Directory Administrator Password	Type the password for the SESAdmin user.
IP Address	<p>Type the IP address of the computer on which the SESA Directory is installed. This can be the local computer or a remote computer. SESA Managers use this IP address to communicate with the SESA Directory.</p> <p>If connections to the SESA Directory computer are made using authenticated SSL, you must type the host name or FQDN of the computer instead of the IP address.</p> <p>Because the default location of this IP address is the local computer, you must change the IP address to reflect that of the SESA Directory computer.</p>
Directory port number	Type the secure listening port for the SESA Directory (by default 636). SESA Managers use this port to communicate with the SESA Directory.

- 8
- In the Domain Selection panel, click the name of the SESA administrative domain that you typed when you installed the SESA Directory from the drop-down list.

The SESA administrative domain name appears in the Symantec management console navigational tree as the top-level administrative domain.
- 9
- In the Manager Organizational Unit panel, select one of the following:

  - Managers: Store information about the SESA Manager in the Managers organizational unit.
  - Default: Store information about the SESA Manager in the Default organizational unit.

You can view the organizational unit that you select in the Symantec management console.

For more information, see the *Symantec Management Console User's Guide*.
- 10
- In the SESA DataStore panel, select the SESA DataStore to configure for the SESA Manager.
- 11
- In the Java SDK Directory panel, confirm the location in which you installed the SDK.
- 12
- In the Web Server Installation panel, specify the location for the Web server installation. The default is /opt/IBMHTTPD.

- 13** If the SESA Secure Communications panel appears, do the following to create the key database for self-signed SSL certificates:

Key Database Password	Type a password for the key database of six alphanumeric characters minimum. High-ASCII and DBCS characters are not allowed.
Company	Type the company name. High-ASCII and DBCS characters are not allowed.
Country	Click the country from the drop-down list.
Select host IP Address	Type the IP address of the computer on which the SESA Manager is being installed.  If connections to the SESA Manager computer are made using authenticated SSL, you must type the host name or FQDN of the computer instead of the IP address.
Key size (bits)	Type the encryption length in bits for the default, self-signed certificate that SESA uses to secure data communication. The default setting of 1024 bits is standard. The longer the key size, the higher the security of the data encryption. However, the higher the security of the data encryption, the longer the amount of time required to encrypt and decrypt data.

This panel appears only when the SESA Directory is installed on a different computer.

- 14** In the SESA Agent Listen IP panel, confirm that the SESA Agent heartbeat IP address is 0.0.0.0.  
The SESA Installation Wizard reports the status of the components that are being installed using the specified logons, passwords, paths, and ports information. The SESA Installation Wizard installs the SESA Manager and SESA Agent on the computer on which you are running the wizard. (As for SESA clients, the SESA Manager must use a SESA Agent to pass data from the computer on which you installed the SESA Manager.)
- 15** In the SESA Agent panel, confirm the IP address of the SESA Manager computer.  
The SESA Installation Wizard configures and installs the SESA Manager. Depending on the speed of your computer, this process may take a long time.
- 16** In the Operation Complete panel, click **Next**.

- 17 In the SESA Install Menu panel, click **Exit SESA Installer**, and then click **Next**.
- 18 In the SESA Installation Successful panel, click **Finish** to exit the SESA Installation Wizard.

#### To configure and preinstall SESA alert logging

- 1 On the Solaris computer on which the SESA Manager is installed, in the Terminal window, change directories to the `/etc/syslog.conf` file.
- 2 In a text editor, open the **syslog.conf** file.
- 3 Add the following lines to the `syslog.conf` file, making sure to tab between each incidence of the words `debug` and `/var`:

```
local0.debug      /var/adm/SESA.log
local1.debug      /var/adm/SESA_Alert.log
local2.debug      /var/adm/SESA_DataStore.log
local3.debug      /var/adm/SESA_Directory.log
local4.debug      /var/adm/SESA_Manager.log
```
- 4 To preinstall the log files that you configured previously, type the following commands in the order in which they are listed:

```
touch /var/adm/SESA.log
touch /var/adm/SESA_Alert.log
touch /var/adm/SESA_DataStore.log
touch /var/adm/SESA_Directory.log
touch /var/adm/SESA_Manager.log
```
- 5 To stop the syslog service, type the following command:

```
/etc/init.d/syslog stop
```
- 6 To start the syslog service, type the following command:

```
/etc/init.d/syslog start
```

## Installing the SESA Agent for heartbeat monitoring

When you install the SESA Manager, a SESA Agent is also installed to monitor and help process communications to and from the SESA Manager. To monitor and process communications, the SESA Agent uses various providers, each of which assists with some type of SESA Agent function, such as SESA logging, configuration, state, and inventory services.

In SESA 2.0 and later versions, SESA Agents include a new heartbeat provider, which determines the state of all of the other SESA Agent providers.

When a SESA Directory or SESA DataStore component is installed on the same computer as the SESA Manager, the SESA Agent that is automatically installed with the SESA Manager handles the communication and heartbeat monitoring for the SESA Directory and SESA DataStore components, too. However, when a SESA Directory or SESA DataStore is installed remotely from the SESA Manager, you must install an additional SESA Agent to provide heartbeat monitoring between the SESA Manager and the other SESA component.

## Installing a SESA Agent for heartbeat monitoring on a Windows computer

You run the SESA Installation Wizard to install the SESA Agent for heartbeat monitoring.

### To install the SESA Agent for heartbeat monitoring on a Windows computer

- 1 On the SESA Directory or SESA DataStore computer, start the SESA Installation Wizard.  
See [“Starting the SESA Installation Wizard”](#) on page 134.
- 2 In the SESA Install Menu panel, click **Custom Install**.
- 3 In the SESA Install Menu panel that appears, click **Advanced Options**.
- 4 In the SESA Advanced Install Menu panel, click **Install SESA Agent for Heartbeats**.
- 5 In the Select Working Directory panel, accept the default directory (C:\SESA) or select another location.  
If you have a SESA component on this computer, this option will be unavailable and you must accept the existing working directory.
- 6 In the Existing SESA Directory panel, do the following for the SESA DataStore to connect with the SESA Directory:

SESA Directory  
Administrator Password

Type the password for the SESAdmin user.

IP Address

Type the IP address of the computer on which the SESA Directory is installed. This can be the local computer or a remote computer. SESA Managers use this IP address to communicate with the SESA Directory.

If connections to the SESA Directory computer are made using authenticated SSL, you must type the host name or FQDN of the computer instead of the IP address.

Directory port number      Type the secure listening port for the SESA Directory (by default, 636). SESA Managers use this port to communicate with the SESA Directory.

- 7 In the Domain Selection panel, confirm the name of the SESA administrative domain that you typed when you installed the SESA Directory.
- 8 In the SESA Agent panel, type or confirm the IP address of the SESA Manager to which the SESA Agent communicates.  
If connections to the SESA Manager computer are made using authenticated SSL, you must type the host name or FQDN of the computer instead of the IP address.
- 9 In the Agent Organizational Unit panel, select one of the following:
  - Managers: Store information about the SESA Agent in the Managers organizational unit.
  - Default: Store information about the SESA Agent in the Default organizational unit.You can view the organizational unit that you select in the Symantec management console.  
For more information, see the *Symantec Management Console User's Guide*.
- 10 In the SESA Agent Listen IP panel, do one of the following:
  - If the Windows computer on which you are installing the SESA Manager also acts as a cluster server for Microsoft Windows Network Load Balancing, type the heartbeat IP address of the Microsoft Windows clustering technology.
  - If the Windows computer on which you are installing the SESA Manager is not part of a Microsoft Windows Network Load Balancing system, confirm that the SESA Agent heartbeat IP address is 0.0.0.0.The SESA Installation Wizard installs the SESA Agent on the computer on which you are running the wizard.
- 11 In the Operation Complete panel, click **Next**.
- 12 In the SESA Advanced Install Menu panel, click **Main SESA Install Menu**.
- 13 In the SESA Install Menu panel, click **Exit the Installer**.
- 14 When you are prompted to exit, click **Yes**.
- 15 In the SESA Installation Successful panel, click **Finish** to complete the SESA Agent installation.

## Installing a SESA Agent for heartbeat monitoring on a Solaris computer

You must install a SESA Agent for heartbeat monitoring on the SESA DataStore computer if you are running the Oracle database server. If you have installed the SESA Directory on a Solaris computer that is remotely located from the SESA Manager, you must also install a SESA Agent for heartbeat monitoring on the SESA Directory computer.

You must run the SESA Installation Wizard on the Solaris computer on which you want to install the SESA Agent. However, you do not need to be physically located at this computer, as long as you can connect to it from another Solaris computer.

### To install the SESA Agent for heartbeat monitoring on a Solaris computer

- 1 On the SESA Directory or SESA DataStore computer, start the SESA Installation Wizard.  
See [“Starting the SESA Installation Wizard”](#) on page 134.
- 2 When you are prompted to supply a location for temporary installation files, do one of the following:
  - Accept the default location as long as it has at least 75 MB of hard disk space available.
  - Type a location or click **Browse** to find a different location that has 75 MB of hard disk space available.
- 3 In the Welcome to the SESA Installation panel, review the information, and then click **Next**.
- 4 In the SESA License Agreement panel, review the agreement, click **I accept the agreement**, and then click **Next**.  
If you don't accept the agreement, you cannot continue the installation.
- 5 In the SESA Preinstallation Requirements Summary panel, confirm that the computer to which you are installing is running Sun Solaris version 8 (64-bit).
- 6 In the SESA Install Menu panel, click **Advanced Options**.
- 7 In the SESA Advanced Install Menu panel, click **Install SESA Agent for Heartbeats**.
- 8 In the Select Working Directory panel, accept the default location, /opt/Symantec/SESA, or select another location.  
If you have a SESA component on this computer, you must accept the existing working directory.

- 9 In the Existing SESA Directory panel, do the following for the SESA DataStore to connect with the SESA Directory:

SESA Directory Administrator Password	Type the password for the SESAdmin user.
IP Address	Type the IP address of the computer on which the SESA Directory is installed. This can be the local computer or a remote computer. SESA Managers use this IP address to communicate with the SESA Directory.  If connections to the SESA Directory computer are made using authenticated SSL, you must type the host name or FQDN of the computer instead of the IP address.
Directory port number	Type the secure listening port for the SESA Directory (by default 636). SESA Managers use this port to communicate with the SESA Directory.

- 10 In the Domain Selection panel, confirm the name of the SESA administrative domain that you typed when you installed the SESA Directory.
- 11 In the SESA Agent panel, type the IP address of the SESA Manager to which the SESA Agent communicates.  
If connections to the SESA Manager computer are made using authenticated SSL, you must type the host name or FQDN of the computer instead of the IP address.
- 12 In the Agent Organizational Unit panel, select one of the following:
- Managers: Store information about the SESA Agent in the Managers organizational unit.
  - Default: Store information about the SESA Agent in the Default organizational unit.
- You can view the organizational unit that you select in the Symantec management console.  
For more information, see the *Symantec Management Console User's Guide*.
- 13 In the SESA Agent Listen IP panel, confirm that the SESA Agent heartbeat IP address is 0.0.0.0.  
The SESA Installation Wizard installs the SESA Agent on the computer on which you are running the wizard.
- 14 In the Operation Complete panel, click **Next**.
- 15 In the SESA Advanced Install Menu panel, click **Main SESA Install Menu**.
- 16 In the SESA Install Menu panel, click **Exit the Installer**.



# Performing a silent installation on Solaris or Windows computers

SESA provides a method for users to perform silent installations. A silent installation is an unattended, automated installation in which user input is not required. The values that would normally be typed into the installation panels by a user during the installation are instead automatically supplied by a settings file that is created prior to the silent installation.

You may want to perform a silent installation to simplify the repeated installation of similar components. For example, if you have already installed the SESA Directory and SESA DataStore, and you plan to install several SESA Managers on similar computers, you can automate this by creating a silent installation settings file that will automatically provide the necessary information.

Alternatively, you may want to perform a silent installation to automate complex repeated installations. For example, you may need to run several SESA test cases that you can quickly reinstall. You can set up the silent installation once to record the steps, and use a silent installation parameter to reinstall each subsequent time.

## How a silent installation works

When you run the SESA Installation Wizard from the command line with the `-silentfile` parameter, the wizard only creates the settings file that you can use in subsequent silent installations. The wizard does not install any SESA components. You must run the SESA Installation Wizard from the command line using the `-silent` parameter to silently install the SESA components with the settings file that you created.

The silent installation duplicates each segment of an attended installation. You must create a separate settings file for each segment of the SESA installation that you want to duplicate. For example, if you are installing the SESA Directory on one Solaris computer, the SESA DataStore on another Solaris computer, and the SESA Manager on a Windows computer, you must create an installation settings file for each of these installations.

Silent installations require that all of the values be identical to the ones that were typed when the installation settings file was created. This includes SESA Manager IP addresses, account user names and passwords, directory locations, and so on. This also includes the location of additional required SESA installation files. For example, if you directed the SESA Installation Wizard to drive E when you were prompted for SESA Foundation Pack CD2, you must ensure that the CD2 files are available on drive E when you execute the silent

installation. You may want to place these resources on a mapped common network drive so that they are available for each silent installation that you perform. You can modify the location of these files by directly editing the silent installation settings file that you created.

Additional installation steps that take place outside of the SESA Installation Wizard will not be automated in the silent installation settings file and must be completed using the SESA Installation Wizard. For example, some distributed installation scenarios require that you modify certain IBM DB2 services settings on Windows and that you install an IBM DB2 Runtime Client. This occurs outside of the scope of the SESA Installation Wizard and cannot be automated as part of the silent installation.

If any errors are encountered during a silent installation, the installation process may be interrupted and an error message may be displayed. For example, the SESA Installation Wizard will display an error that instructs the user to disable the Microsoft IIS World Wide Web Publishing Service if the service is running on a computer on which the SESA Manager is to be installed. In this case, you would want to ensure that the Microsoft IIS World Wide Web Publishing Service was disabled prior to running the silent installation to avoid this error message, which would pause the installation process.

lists the available silent installation command-line parameters.

To perform a silent installation, you must complete the following tasks:

- [Creating a silent installation settings file](#)
- [Running a silent installation](#)

---

**Note:** To prevent performance problems, do not run the installation with a command line directly from the SESA Foundation Pack distribution media.

---

## Creating a silent installation settings file

Performing a silent installation requires a settings file to supply the values that are normally input by the user during installation. Running the SESA Installation Wizard from the command line to create the settings file does not install any SESA components.

### To create the silent installation settings file

- 1 To change directories to the SESA Foundation Pack CD1, on the computer on which you are starting the SESA Installation Wizard, at the command prompt, type the following command:

```
cd /<SESA CD1 directory>
```

- 2 If you are installing on a UNIX computer, ensure that the environment variables for HOMEROOT and TMPDIR are set to the desired values before you run the silent installation.

The default values are as follows:

- HOMEROOT=/export/home
- TMPDIR=/var/tmp

- 3 Ensure that the exported variable LD\_LIBRARY\_PATH includes the current directory.

- 4 If the LD\_LIBRARY\_PATH variable is not exported from the command line, to execute it, type the following command:

```
export LD_LIBRARY_PATH=./
```

There should be no spaces on either side of the equal (=) operator.

- 5 To start the SESA Installation Wizard with the -silentfile parameter, type the following command:

```
java -jar setup.jar -silentfile -f<filename>
```

where <filename> contains the location and name of the file to be created.

For example, java -jar setup.jar -silentfile -f manager.settings.

You must have write access to the file name and location that you specify.

- 6 Follow the on-screen instructions in the SESA Installation Wizard. This creates the silent installation settings file. The actual installation of components does not occur. The SESA Installation Wizard will display a Silent Install Script File Created panel that notes the location of the new file.

## Running a silent installation

After you have created the silent installation settings file, you can run the silent installation using the values in the settings file. You can run repeated silent installations using the same settings file, for example, if you had several SESA Managers that you wanted to quickly install on several similar computers.

### To run a silent installation

- 1 Ensure that you have created a silent installation settings file.  
See [“Creating a silent installation settings file”](#) on page 187.
- 2 To change directories to the SESA Foundation Pack CD1, on the computer on which you are starting the SESA Installation Wizard, at the command prompt, type the following command:

```
cd /<SESA CD1 directory>
```

- 3 If you are installing on a UNIX computer, ensure that the environment variables for HOMEROOT and TMPDIR are set to the desired values before you run the silent installation.

The default values are as follows:

- HOMEROOT=/export/home
- TMPDIR=/var/tmp

- 4 To start the SESA Installation Wizard with the -silent parameter, type the following command:

```
java -jar setup.ja_ -silent -f <filename>
```

where <filename> contains the location and name of the silent installation settings file that you created.

Several processes will launch while the silent installation is running. This may take several minutes. Do not interrupt the silent installation process.

When the process completes, the focus returns to the original command prompt from which you launched the silent installation, and one of several Task Completed messages appears.

# After you install SESA

This chapter includes the following topics:

- [Testing the installation](#)
- [Post-installation tasks](#)
- [Uninstalling SESA](#)
- [About reinstalling a SESA DataStore in Windows environments](#)

## Testing the installation

After installation, you can verify that you installed the appropriate components and that they are working properly.

You can test the SESA installation by performing the following tasks:

- Verify that the installed services have started.
- Verify that the IBM HTTP Server is operating.
- Verify that the SESA servlets are operating.
- Examine the SESA logs for messages.

## Launching the Symantec management console

The Symantec management console is launched from Windows, Solaris, and Linux computers via the supported Web browsers and Sun Java 2 Runtime Environments (J2REs) that are listed in [Table 7-1](#).

**Table 7-1** Supported Web browsers and remote computers

Remote computer	Supported Web browser	Supported J2RE
Windows 98 or later	Microsoft Internet Explorer 5.5 with Service Pack 2 or 6.0 or Netscape Navigator 7.0x with the latest security patches applied	J2RE 1.3.1_02 or 1.3.1_09
Solaris 7 or later	Mozilla 1.7.2 with the necessary packages and patches applied	J2RE 1.4.2_02
Red Hat Linux 6.2/7.0/7.1/7.2 or later	Mozilla 1.7.2 with the necessary packages and patches applied	J2RE 1.4.2_02

Before you launch the Symantec management console, ensure that the appropriate Sun Java 2 Runtime Environment is installed on the computer that is running the Web browser. The J2RE includes the Java Plug-in product, which is required when running the Java 2 environment inside Mozilla Web browsers. When installing Mozilla on a Solaris or Linux computer, always install the patches first, followed by the Mozilla software, and then the Java Plug-in product.

The J2RE is included on the Windows and Solaris CD1 of the SESA Foundation Pack CD set in the UTILS\JRE directory.

**Note:** If you are launching the Symantec management console in a Microsoft Internet Explorer browser on a Windows 2003 computer, you may encounter problems connecting to the SESA Manager using the SESA Manager IP address. The connection fails because Windows 2003 sets Internet Explorer to the highest security setting by default. To resolve the problem, you must add the IP address of the local host computer to the Trusted Sites list in Internet Explorer. For information on adding to the Trusted Sites list in Internet Explorer, see your Microsoft Internet Explorer online Help or documentation.

You can launch the Symantec management console remotely in an Internet browser on Windows, Solaris, or Linux platforms. On Windows, you can also launch the console locally on the SESA Manager computer.

## To launch the Symantec management console on a Windows computer

### 1 Do one of the following:

Connect from a remote computer

In a supported Microsoft Internet Explorer or Netscape Navigator browser window, type the URL for the SESA Manager, and then press **Enter**.

For example:

`https://<IP address, host name, or FQDN of SESA Manager computer>/sesa/ssmc`

If connections to the SESA Manager computer are made using authenticated SSL, you must type the host name or FQDN of the computer instead of the IP address.

Connect from the SESA Manager computer

On the Windows taskbar, click **Start > Programs > Symantec Enterprise Security > Symantec management console**.

### 2 Do one or both of the following:

- In the security alert message that warns you that you are about to view pages over a secure connection, click **In the future, do not show this warning**, and then click **OK**.

If you have previously disabled this message, it does not appear.

- In the security alert message that informs you about your site's security certificate, click **Yes**.

If you do not want this message to appear in the future, upgrade to self-signed SSL certificates, or to fully authenticated, CA-signed SSL certificates (recommended).

For more information on upgrading to authenticated, CA-signed certificates, see the *Symantec Enterprise Security Architecture Administrator's Guide*.

- 3 In the Logon window, type the name, password, and, optionally, the domain name for one of the following SESA accounts:

SESA Administrator account	By default, the user name for this account is SESAdmin. This account has access rights to every SESA administrative domain on every SESA Manager computer. Therefore, you do not have to type a domain name when you log on to the Symantec management console using this account.
SESA Domain Administrator account	This account has access rights to the administrative domain in which the SESA Manager is located. To log on to the administrative domain in which the SESA Manager is located, leave the Domain box empty. To log on to a different administrative domain or subdomain, type the domain name in either dotted or full notation. An example of full notation is: dc=Symantec,dc=SES An example of dotted notation is: Symantec.SES

- 4 Click **Login**.
- 5 If you are asked whether you want to view both secure and nonsecure items, select one of the following:
  - Yes
  - No

Because the browser is connecting over HTTPS (a secure connection), all items are secured, so selecting Yes or No yields the same results.

#### To launch the Symantec management console on a Solaris or Linux computer

- 1 In Mozilla, type the URL for the SESA Manager, and then press **Enter**.  
For example, https://<IP address, host name, or FQDN of the SESA Manager computer>/sesa/ssmc  
If connections to the SESA Manager computer are made using authenticated SSL, you must type the host name or FQDN of the computer instead of the IP address.
- 2 In the Website Certified By an Unknown Authority message that warns you that Mozilla does not recognize your certificate, click **Accept this certificate permanently**, and then click **OK**.  
If you have previously disabled this message, it does not appear.



- 3 In the Logon window, type the name, password, and, optionally, the domain name for one of the following SESA accounts:

SESA Administrator account	By default, the user name for this account is SESAdmin. This account has access rights to every SESA administrative domain on every SESA Manager computer. Therefore, you do not have to type a domain name when you log on to the Symantec management console using this account.
SESA Domain Administrator account	This account has access rights to the administrative domain in which the SESA Manager is located. To log on to the administrative domain in which the SESA Manager is located, leave the Domain box empty. To log on to a different administrative domain or subdomain, type the domain name in either dotted or full notation.  An example of full notation is: dc=Symantec,dc=SES  An example of dotted notation is: Symantec.SES

- 4 Click **Login**.
- 5 In the Warning - Security message that informs you about your site's security certificate, click **Yes**.

## Verifying that the installed services have started

SESA installs several applications that run as services on Windows and daemons on Solaris. You can verify that they are successfully executing by checking the respective lists of currently running services or processes.

Depending on the platform, you either verify that services or daemons have started.

### To verify that the installed services have started on Windows

- ◆ On the computer on which the services are installed, open the Windows Component Services panel and verify that the corresponding services are listed and that their corresponding status is Started:
  - Apache Tomcat
  - DB2 (all services with a Startup Type of Automatic)
  - IBM HTTP Server
  - IBM Tivoli Directory Server V5.2 and Admin Daemon
  - SESA AgentStart Service

To verify that the installed daemons have started on Solaris

- 1

On the computer on which the daemons are installed, become superuser.
- 2

To list the daemon processes that are currently running, at the command prompt, type the following command:  
`ps -efu root`
- 3

In the display of processes that are shown, verify that the corresponding processes are listed for the daemons that you want to verify:

Apache Tomcat	<div><div>■</div><div>/usr/j2sdk1_3_1_09/bin/../bin/sparc/native_threads/java -server -verbosegc -Xms</div></div> <div><div>■</div><div>/usr/j2sdk1_3_1_09/jre/bin/../bin/sparc/native_threads/java -Dnetworkaddress.ca</div></div>
DB2	db2sysc ( <i>multiple entries</i> )
Oracle Database	ora_pmon_<DBNAME>
IBM HTTP Server	opt/IBMHTTPD/bin/httpd
IBM Tivoli Directory Server V5.2	bin/ibmslapd -f/etc/ibmslapd.conf
SESA AgentStart Service	opt/Symantec/SESA/Agent/agentd

Note that these entries assume you have installed the components in their default directories. Your display may appear differently. Note also that seeing these processes listed is only a first-level verification, there may be other factors affecting their correct operation. However, if you do not see an entry for the process running, you can assume it was not successfully installed.

## Verifying that the IBM HTTP Server is operating

You can verify that the IBM HTTP Server is installed and operating correctly by browsing to the IBM HTTP Server administrative interface.

To verify that the IBM HTTP Server is operating on Windows or Solaris

- ◆

In a supported Internet browser, type the following URL:  
**https://<IP Address of the HTTP Server>**  
The IBM HTTP Server welcome page appears.

## Verifying that the SESA servlets are operating

SESA servlets are components executing on the SESA Manager that are responsible for specific SESA tasks, such as logging or alerting. You verify that the SESA servlets are operating successfully by browsing to the corresponding servlet's location.

### To verify that the SESA servlets are operating in Windows or Solaris

- 1 In a supported Internet browser, type one of the following URLs:
  - For Event Logger: <https://localhost/sesa/servlet/EventLogger>
  - For Alert Logger: <https://localhost/sesa/servlet/AlertLogger>
  - For Config: <https://localhost/sesa/servlet/config?action=stats>If you are browsing to the SESA Manager from a remote computer, type the IP Address or FQDN of the SESA Manager instead of localhost.
- 2 To display the status page for the server, when prompted, type an administrator user name and password.

## Verifying that a shared schema is installed

You can verify that the schema that the SESA Installation Wizard installs during SESA Manager installation has been successfully installed.

### To verify that a shared schema is installed

- 1 On the SESA Manager computer, in a supported Web browser, type the following URL:  
**<https://<IP address of SESA Manager computer>/sipi/servlet/sipi?action=indexinfo>**
- 2 When you are prompted to type a user name and password, type the user name and password for the SESA Domain Administrator.
- 3 In the SIP Service Web page, in the Package Info drop-down box, select **Installed Domain Packages**, and then click **Go**.  
This option detects that all shared schemas have been successfully deployed to the SESA administrative domain or domains.
- 4 If necessary, scroll to the Status tables.

- 5 Verify that the Package Status column in all of the Status tables shows a green Installed in each row.  
If one or more displays a Failed status, or a Pending status stays without resolving to an Installed status after five minutes, you can view deployment or removal information in the SIP Servlet logs or the Symantec management console.  
For more information on viewing SIP Service logs, see the *Symantec Enterprise Security Architecture Administrator's Guide*.
- 6 Exit the Web browser.

## Examining the SESA logs for messages

SESA maintains ongoing status logs for its components. You can use these logs to verify successful operation and to troubleshoot problems. If you see any exceptions or other issues written to these logs, you can call Symantec Technical Support.

### To examine the SESA logs for messages

- 1 At the command prompt, change directories to the location of the logs that you specified during installation. By default the directory is:
  - C:\SESA\<computer name>\<component>\logs  
on a Windows machine
  - /opt/Symantec/SESA/<computer name>/<component>/logs  
on a Solaris machine
- 2 Open and examine the logs in each of the following subfolders:
  - Admin
  - Alert
  - Bootstrap
  - command
  - Config
  - DirMgrAPI
  - Event
  - heartbeat
  - Inventory
  - InventoryQueue
  - Manager\_LiveUpdate
  - Notification
  - ses\_manager

- SIPIConfigurationLoader
  - SIPService
  - State
- 3 At the command prompt, change directories to the location of the SESA Agent logs.  
The default location on Windows computers is C:\SESA\Agent.  
The default location on Solaris computers is /opt/Symantec/SESA/Agent.
- 4 Open and examine the following logs:
- AgentStart.log (For routine startup information)
  - sesa-agent.log (For SESA Agent operation)
  - uninst.log (After removing SESA components)
- 5 If you notice what appear to be error messages in the sesa-agent.log file, compare the messages to the following:

```
Error: no management server defined
Error: no management server defined
Created HttpServer object on 127.0.0.1:8086 with 6 threads.
SymcProvider.initialize: finished initialization; using
    interface 192.168.01.1
Contents changed - saving sesaagent.svc
Shut down complete
SESA Agent (v 2.0.55.3) - Copyright(c) 2002-2003 - Symantec
    Corporation
Created HttpServer object on 127.0.0.1:8086 with 6 threads.
SymcProvider.initialize: finished initialization; using
    interface 192.168.01.1
StateProxy::exec() -- error. Connection refused: connect
```

Disregard any messages that match the text above. They do not indicate problems.

## Post-installation tasks

After you install SESA, ensure that you do the following:

- Install additional SESA domains, as necessary.  
See [“Installing additional SESA domains”](#) on page 198.
- Deploy SESA Directory replicas if you have added a new SESA domain after installing SESA Directory replicas.  
See [“Deploying SESA Directory replicas”](#) on page 204.

- Configure SESA to generate SNMP alert responses as necessary.  
See [“Configuring SESA to generate SNMP alert responses”](#) on page 205.
- Upgrade the IBM HTTP Server version 1.3.28.1 with the latest security patches that are available from IBM.  
Ensure that you install the proper version-specific patches.
- Edit the security properties of Windows folders on the applicable SESA Manager computers.  
By default, SESA gives everyone access to the SESA Manager folders in the SESA Directory on the SESA Manager computer. Similarly, SESA gives full permissions to everyone who accesses the IBM HTTP Server, IBM DB2, and IBM Directory Server folders.  
Only the administrators group needs access to the SESA Manager and other third-party component folders. Therefore, you may want to edit the security properties of the folders in Windows to restrict permissions to them.
- Back up the SESA DataStore.  
For more information on Data backup and recovery, see the *Symantec Enterprise Security Architecture Administrator’s Guide*.
- Maintain SESA data.  
For more information on the SESA Data Maintenance Utility and data maintenance, see the *Symantec Enterprise Security Architecture Administrator’s Guide*.
- Tune database performance, as necessary.  
For more information on maintaining the SESA DataStore or performance maintenance, see the *Symantec Enterprise Security Architecture Administrator’s Guide*.

## Installing additional SESA domains

By default, at least one administrative domain is installed when you install your SESA Manager. You can install additional domains; however, each domain must have at least one SESA Manager associated with it. You can also install subdomains under top-level domains.

You install the additional domains and subdomains on the SESA Manager computer using the SESA Installation Wizard. You can uninstall SESA domains and subdomains using the SESA Uninstallation Wizard.

See [“Uninstalling SESA”](#) on page 206.

You can use the SESA Installation Wizard to install an additional top-level domain on a Windows or Solaris computer. If you install a new top-level domain, and one or more replica SESA Directories already exist, you must manually copy the domain name suffix of the newly added top-level domain to the replica SESA Directory or SESA Directories before you can complete the installation of the additional top-level domain.

You can also install a subdomain under any top-level domain.

#### To install an additional SESA domain on a Windows or Solaris computer

- 1 On the SESA Directory computer, start the SESA Installation Wizard.  
See [“Starting the SESA Installation Wizard”](#) on page 134.
- 2 In the SESA Install Menu panel, click **Custom Install**, and then click **Next**.
- 3 In the SESA Install Menu panel, click **Advanced Options**, and then click **Next**.
- 4 In the SESA Advanced Install Menu panel, click **Create New Domain**, and then click **Next**.
- 5 In the Select Working Directory panel, click **Next**.  
Because you have a previously existing SESA component on this computer, this option is dimmed and you must accept the already existing working directory.
- 6 In the Existing SESA Directory window, for the SESA DataStore to connect with the SESA Directory, do the following:

SESA Directory Administrator Name	Type the name for the IBM Directory Server administrator account in the form cn=<name> (by default, cn=root).
SESA Directory Administrator Password	Type the Directory Administrator password.
IP Address	Type the IP address of the computer on which the SESA Directory is installed. This can be the local computer or a remote computer. SESA Managers use this IP address to communicate with the SESA Directory.  If connections to the SESA Directory computer are made using authenticated SSL, you must type the host name or FQDN of the computer instead of the IP address.
Directory port number	Type the secure listening port for the SESA Directory (by default, 636). SESA Managers use this port to communicate with the SESA Directory.

- 7
- In the Create New Domain panel, do one of the following:
- If the panel contains a domain field, skip to step 9.
- If the panel contains text instructions, you must manually add domain suffixes for each replica SESA Directory.  
The text instructions appear because the wizard has detected that replicas exist for the SESA Directory in which you are installing the new domain. You must manually add the suffix to the replicas before you can continue with the new domain installation.  
See [“To manually copy a domain name suffix to each replica SESA Directory”](#) on page 201.
- 8
- In the Create New Domain panel, type the name of the new SESA administrative domain that you want to add to the SESA Directory.  
The SESA administrative domain name will appear in the Symantec management console navigational tree as the top-level administrative domain.
- 9
- In the SESA Directory Domain Administrator panel, do the following:
- Domain Administrator

Type or confirm the name for the SESA Domain Administrator account. This account provides access to its associated SESA administrative domain. Use this Domain Administrator name and password to log on to a particular SESA administrative domain (and SESA Manager) after the SESA installation is complete.
- Domain Administrator Password

Type or confirm the Domain Administrator password. It must be between six and twelve alphanumeric characters.
- Select Preferred Language

Type or confirm the Language of the SESA Manager. The default language is English. If you install non-English security products, you must install them in the same language as the SESA Manager.
- The SESA Installation panel reports the status of components being installed using the specified logons, passwords, paths, and ports information.
- 10
- In the Operation Complete panel, click **Next**.
- 11
- In the SESA Install Menu panel, click **Exit SESA Installer**, and then click **Next**.
- 12
- In the SESA Installation Successful panel, to exit the SESA Installation Wizard, click **Finish**.



**To manually copy a domain name suffix to each replica SESA Directory**

- 1 Do one of the following:
  - If you are physically located at the replica SESA Directory Windows computer, log on using the appropriate administrative privileges.
  - If you are physically located at the replica SESA Directory Solaris computer, become superuser.
  - If you are located at a remote Solaris computer, you must initiate a Telnet session with the replica SESA Directory computer, and then export a display.  
See [“Connecting to a remote Solaris computer and exporting its display”](#) on page 130.
- 2 On the replica SESA Directory computer, stop the IBM Directory Server. To stop the IBM Directory Server, you use the IBM Directory Server Web Admin interface.  
For more information on starting and stopping the IBM Directory Server, see the *Symantec Enterprise Security Architecture Administrator's Guide*.
- 3 To log on to the master SESA Directory computer do one of the following:
  - If you are physically located at the master SESA Directory Windows computer, log on using the appropriate administrative privileges.
  - If you are physically located at the master SESA Directory Solaris computer, become superuser.
  - If you are located at a remote Solaris computer, you must initiate a Telnet session with the master SESA Directory computer, and then export a display.  
See [“Connecting to a remote Solaris computer and exporting its display”](#) on page 130.
- 4 On the master SESA Directory, in a text editor, open the **ibmslapd.conf** configuration file.  
On Windows computers, the default location is C:\Program Files\IBM\LDAP\etc\ibmslapd.conf.  
On Solaris computers, the default location is /opt/IBMldaps/etc/ibmslapd.conf.
- 5 In the configuration file, search for the section that begins with the following characters:  
dn: cn=Directory
- 6 Locate the last three lines of this section.  
Each line starts with the following text: ibm-slapdSuffix:  
This text represents the suffixes that are added by SESA.

- 7
- Copy the three lines to the same location in the `ibmslapd.conf` file on the replica SESA Directory computer.
- 8
- Restart the IBM Directory Server.  
For more information on starting and stopping the IBM Directory Server, see the *Symantec Enterprise Security Architecture Administrator's Guide*.
- 9
- Repeat this procedure for each replica computer.
- 10
- Continue with step 8 of [“To install an additional SESA domain on a Windows or Solaris computer”](#) on page 199.

To install an additional SESA subdomain on a Windows or Solaris computer

- 1
- On the SESA Directory computer, start the SESA Installation Wizard.  
See [“Starting the SESA Installation Wizard”](#) on page 134.
- 2
- In the SESA Install Menu panel, click **Custom Install**, and then click **Next**.
- 3
- In the SESA Install Menu panel, click **Advanced Options**, and then click **Next**.
- 4
- In the SESA Advanced Install Menu panel, click **Create New Subdomain**.
- 5
- In the Select working Directory panel, click **Next**.  
Because you have a previously existing SESA component on this computer, this option is dimmed and you must accept the already existing working directory.
- 6
- In the Existing SESA Directory panel, for the SESA DataStore to connect with the SESA Directory, do the following:

SESA Directory Administrator Password	Type the Directory Administrator password. For top domain super user accounts, the account name is in the form of <code>cn=&lt;name&gt;</code> (by default, <code>cn=root</code> ). For subdomains, the default user is <code>sesadmin</code> . The password is required.
IP Address	Type the IP address of the computer on which the SESA Directory is installed. This can be the local computer or a remote computer. SESA Managers use this IP address to communicate with the SESA Directory.  If connections to the SESA Directory computer are made using authenticated SSL, you must type the host name or FQDN of the computer instead of the IP address.
Directory port number	Type the secure listening port for the SESA Directory (by default, 636). SESA Managers use this port to communicate with the SESA Directory.

- 7 In the Create New Subdomain panel, do the following:
  - Select the parent domain of the subdomain that you are going to create.
  - Type the name of the new subdomain without the extension .SES. High-ASCII characters are allowed, but do not use special characters such as !, @, #, \$, %, >, &, and \*, or characters from a double-byte character set (DBCS).

The SESA administrative domain name and extension appear in the Symantec management console navigational tree as a subdomain of the selected parent domain.

- 8 In the SESA Directory Domain Administrator panel, do the following:

Domain Administrator	Type or confirm the name for the SESA Domain Administrator account. This account provides access to its associated SESA administrative domain. Use this Domain Administrator name and password to log on to a particular SESA administrative domain (and SESA Manager) after the SESA installation is complete.
Domain Administrator Password	Type or confirm the Domain Administrator password. It must be between six and twelve alphanumeric characters.
Select Preferred Language	Type or confirm the Language of the SESA Manager. The default language is English. If you install non-English security products, you must install them in the same language as the SESA Manager.

The SESA Installation Wizard reports the status of components being installed using the specified logons, passwords, paths, and ports information.

- 9 In the Operation Complete panel, click **Next**.
- 10 In the SESA Install Menu panel, click **Exit SESA Installer**, and then click **Next**.
- 11 In the SESA Installation Successful panel, to exit the SESA Installation Wizard, click **Finish**.

## Deploying SESA Directory replicas

When you install a replica SESA Directory, it is only visible from the SESA administrative domain to which it was originally installed. If you want to make an installed SESA Directory replica visible in another SESA domain or subdomain, you must deploy the replica to the other domains. You can do this using the Deploy SESA Directory replicas option in the SESA Installation Wizard.

You must deploy one SESA Directory at a time. Repeat the process for each additional replica that requires deployment.

### To deploy a SESA Directory replica to another domain on Windows or Solaris computers

- 1 On the computer on which the SESA Directory for the replica SESA Directory is installed, start the SESA Installation Wizard.  
See [“Starting the SESA Installation Wizard”](#) on page 134.
- 2 Follow the on-screen instructions until the SESA Install Menu panel appears.
- 3 In the SESA Install Menu panel, click **Advanced Options**.
- 4 In the SESA Advanced Install Menu panel, click **Deploy Directory Replicas**.
- 5 In the Select Working Directory panel, click **Next**.  
Because you have a previously existing SESA component on this computer, this option is dimmed and you must accept the already existing working directory.
- 6 In the Existing SESA Directory panel, type the SESA Directory Administrator password. If necessary, type the IP address and Directory port number.  
This account has a user name in the form cn=<name> (by default, cn=root).
- 7 In the Installed Directory Replicas panel, check the replica to deploy.
- 8 In the Installed SESA Domains panel, check the SESA administrative domain or domains to which to deploy the SESA Directory replica.
- 9 Wait while the SESA Installation Wizard reports the progress of the deployment.
- 10 In the Operation Complete panel, click **Next**.
- 11 In the SESA Install Menu panel, click **Exit SESA Installer**, and then click **Next**.
- 12 In the SESA Installation Successful panel, to exit the SESA Installation Wizard, click **Finish**.

## Configuring SESA to generate SNMP alert responses

If you want SESA to generate SNMP alert responses, you must install the appropriate version of Management Information Base (MIB) to your SNMP console. The SESA Foundation Pack CD1 (Windows or Solaris) contains four Version 1 and Version 2 MIB files each.

Depending on the version that your SNMP console uses, you must install one version set of MIBs on your SNMP console. After you install the MIBs to your SNMP console, you can configure the Symantec management console to use the MIBs.

### To install the MIB version set on your SNMP console

- 1 On the computer on which your SNMP console is installed, insert the SESA Foundation Pack CD1 into the CD-ROM drive.
- 2 If you are at a Solaris computer, mount the CD.
- 3 Do one of the following:
  - On Windows computers, at the command prompt, change directories to the UTILS/MIB directory in which the two sets of MIB files are stored.
  - On Solaris computers, in the Terminal, change directories to the UTILS/MIB directory in which the two sets of MIB files are stored.
- 4 Depending on which version set that your SNMP console requires, install either all Version 1 or Version 2 files.  
For more information, see the SNMP console documentation.

### To configure the Symantec management console to use the MIBs

- 1 In an Internet browser, type the following URL:  
**https://<IP Address, host name, or FQDN of SESA Manager computer>/sesa/ssmc**  
If connections to the SESA Manager computer are made using authenticated SSL, you must type the host name or FQDN of the computer instead of the IP address.
- 2 Log on to the Symantec management console using the rights of the SESA Domain Administrator.
- 3 In the Symantec management console, on the Configurations view tab, expand the desired domain.
- 4 Under the domain, expand **SESA > SESA Manager Components Configuration > Default**.
- 5 In the right pane, on the SNMP tab, in the Host value box, type the IP address of the SNMP listener.

- 6 In the Port value box, type the port number of the SNMP listener.
- 7 Do one of the following:
  - If you are using Version 1 MIBs, ensure that the Version one value is **True**.
  - If you are using Version 2 MIBs, in the Version box, type **False**
- 8 Click **Apply**.

When you create an alert, you can now specify SNMP as an additional notification.

## Uninstalling SESA

When uninstalling individual SESA components, it is important to remember that many components have dependencies on other components and on SESA infrastructure applications.

As a best practice, you should uninstall components in reverse of the order in which they were installed. In general, you will uninstall the SESA Manager first, then the SESA DataStore, and then the SESA Directory. Since portions of the uninstallation procedure may access information within the SESA Directory, it should always be uninstalled last.

You can remove all components at once, or any individual component or component combinations. If you have distributed the SESA Manager, SESA Directory, and SESA DataStore across more than one computer, you must execute the uninstallation on each computer to uninstall the component.

You should always use the Symantec Install Wizard to perform an uninstallation of individual components or all components. Do not remove components manually outside of the SESA Install Wizard because this will leave the SESA Install Wizard with incorrect information regarding the status of installed components.

You launch the SESA Installation wizard as follows:

- On Windows computers, you use the Symantec Enterprise Security Architecture Components option in the Add/Remove Programs dialog box.
- On Solaris computers, you execute the `uninstall.sh` script in the default `/opt/Symantec/SESA/uninstall` directory.

---

**Note:** On Windows computers, always use the Symantec Enterprise Security Architecture Components option in the Add/Remove Programs dialog box to remove SESA components. This option launches the SESA uninstallation program, which reconfigures SESA appropriately for the components that you have removed. Do not use entries in the Add/Remove Programs dialog box for third-party components themselves.

---

Once you have launched the SESA Install Wizard, you can uninstall the following components:

- All SESA components at once
- All SESA components and infrastructure
- SESA Directory Server
- IBM HTTP Server
- SESA Key database files
- IBM DB2 Personal Edition
- SESA administrative domain or subdomain

Only those components installed by the SESA Integrated Installer program (the SESA Installation Wizard) are uninstalled.

## SESA heartbeat service and uninstalling the SESA Manager and SESA Agent

A SESA Agent is always installed along with the SESA Manager to facilitate its communication with all other SESA components. The SESA Directory communicates using LDAPS and the SESA DataStore communicates over JDBC, and therefore do not require the SESA agent for their communication. If you have installed the SESA Manager along with either the SESA DataStore or the SESA Directory on the same computer, a SESA Agent will be installed along with the SESA Manager. The SESA heartbeat service is always installed along with a SESA Manager and its Agent.

If you uninstall the SESA Manager from a computer, the SESA Agent will also be uninstalled, and the heartbeat service along with it. If you wish to use the heartbeat service to monitor the remaining SESA DataStore or SESA Directory, you must reinstall the SESA Agent and the heartbeat service.

See [“Installing the SESA Agent for heartbeat monitoring”](#) on page 180.

## Uninstalling SESA from a Windows computer

On Windows computers, you use the Symantec Enterprise Security Architecture Component option to uninstall SESA components.

### To uninstall one or more SESA components on a Windows computer

- 1 On the computer on which the SESA DataStore is installed, on the Windows toolbar, click **Start > Settings > Control Panel**.
- 2 In the Control Panel window, double-click **Add/Remove Programs**.
- 3 In the Add/Remove Programs dialog box, click **Symantec Enterprise Security Architecture Components**.
- 4 Click **Change/Remove**.
- 5 In the Uninstall SESA panel, click **Next**.
- 6 In the SESA Uninstall Menu panel, select the component or components that you want to remove.

Only the components that are installed on the computer on which you are running the uninstallation are available for selection. Components that are displayed but unavailable have other dependent programs still installed. You must remove the dependent programs before these components become available.
- 7 To remove the component or components, follow the on-screen instructions.
- 8 If you see a message that informs you that certain processes are currently running and locked, to turn off the processes and continue, click **Yes**.
- 9 In the Operation Complete panel, review the components that were successfully uninstalled, and then click **Next**.
- 10 In the SESA Uninstall Menu panel, do one of the following:
  - To continue uninstalling additional components, select the next component that you want to uninstall, and then click **Next**.
  - If you are done uninstalling components, click **Exit SESA Uninstaller**, and then click **Next**.
- 11 If you are prompted Are you sure you want to exit the installation, click **Yes**.
- 12 In the Reboot Required panel, to reboot the computer, click **Finish**.



## Uninstalling SESA on Solaris

On Solaris platforms, you execute the `uninstall.sh` script in the default `/opt/Symantec/SESA/uninstall` directory to launch the SESA Install Wizard.

### To uninstall one or more SESA components on a Solaris computer

- 1 On the computer on which the SESA component is installed, become superuser.
- 2 At the command prompt, change directories to the SESA installation directory.  
By default, the directory is:  
`/opt/Symantec/SESA/uninstall`
- 3 At the command prompt, type the following command:  
`./uninstall.sh`
- 4 In the Uninstall SESA panel, click **Next**.
- 5 In the SESA Uninstall Menu panel, select the component or component combination that you want to remove, and then click **Next**.  
Only the components installed on the computer on which you are running the uninstallation are available for selection. Components that are displayed but unavailable (dimmed) have other dependent programs still installed. You must remove the corresponding dependent programs before these components become available.
- 6 To remove the component or components, follow the on-screen instructions.
- 7 If you are uninstalling the SESA DataStore, you will be instructed to perform a manual procedure to remove the SESA user and data tables from the database. Follow the instructions and when complete, return to the SESA Install Wizard, and then click **Next**.
- 8 To drop the database, on the SESA DataStore computer, in a Terminal window, become the Oracle user, and then type the following command:  
**dbshut**

- 9 Delete all of the files in the Oracle database directory structure supporting the SESA DataStore that you are uninstalling.  
For example, if you use the default directory structure for a database named SESA, you would delete the files from the following directories:  
/u02/app/oracle admin/SESA/bdump  
/u02/app/oracle/admin/SESA/cdump  
/u02/app/oracle/admin/SESA/udump  
/u01/oradata/SESA  
/u02/oradata/SESA  
/u01/oradata/SESA/arch
- 10 If you see a message that informs you that certain processes are currently running and locked, to turn off the processes and continue, click **Yes**.
- 11 In the Operation Complete panel, review the components that were successfully uninstalled, and then click **Next**.
- 12 In the SESA Uninstall Menu panel, do one of the following:
  - To continue uninstalling additional components, select the next component that you want to uninstall, and then click **Next**.
  - If you are done uninstalling components, click **Exit SESA Uninstaller**, and then click **Next**.
- 13 If you are prompted Are you sure you want to exit the installation, click **Yes**.
- 14 In the Reboot Required panel, to reboot the computer, click **Finish**.

## About reinstalling a SESA DataStore in Windows environments

In Windows environments, SESA installs the SESA DataStore using the SESA alias. It also installs with an additional alias such as SES1, SES2, and SES3. You can view both of these alias entries in the DB2 Control Center.

If you use the DB2 Control Center to drop the SESA DataStore or any of its aliases, DB2 removes the SESA data from the computer but does not reconcile the state of the other DB2 entry. You must therefore additionally right-click the remaining SESA entry and select Remove to eliminate that entry. After you drop a SESA DataStore, you cannot reinstall a SESA DataStore successfully until you do this.

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**Note:** When you drop and reinstall a SESA DataStore, you must also reinstall any security products that are associated with the SESA DataStore.

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# System requirements

This chapter includes the following topics:

- [About system requirements](#)
- [Supported installation configurations](#)
- [Minimum requirements to install all SESA components on a single Windows computer](#)
- [Minimum requirements for a SESA Directory computer](#)
- [Supported third-party software for the SESA Directory](#)
- [Minimum requirements for the SESA DataStore computer](#)
- [Supported third-party software for the SESA DataStore](#)
- [Minimum requirements for the SESA Manager computer](#)
- [Supported third-party software for the SESA Manager](#)
- [Minimum requirements and supported third-party software for a remote Symantec management console](#)
- [Minimum requirements and supported third-party software for a SESA Agent](#)

## About system requirements

Before you install SESA, ensure that the computers on which you install SESA software meet the necessary requirements.

If you are installing more than one component on a single computer, you can increase the system requirements accordingly.

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**Note:** The minimum system requirements for SESA are applicable for demonstration or evaluation deployments of SESA only. For an enterprise production deployment, the hardware requirements are significantly higher. Contact your SESA sales engineer or representative for information on recommended SESA hardware requirements.

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On Windows platforms, the RunAsService service must be enabled and running during the SESA installation. You can disable the service after installation, if desired.

---

**Warning:** Do not install SESA components on a computer that is also functioning as an Active Directory Domain Controller, or the SESA installation does not run properly.

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# Supported installation configurations

The SESA Manager, SESA DataStore, and SESA Directory can run on either Windows or Solaris operating systems. You can install SESA components on all Windows computers, all Solaris computers, or a combination of both.

Organizations with high-volume, high-performance, or otherwise large networking environments should install each SESA component on a separate computer, regardless of the operating system. If resource limitations make separate computers impossible, or network size and traffic allow, you can install two SESA components on one computer (an Oracle database on a Solaris platform must always be installed on a dedicated computer). Typically, you install all three SESA components on the same Windows computer for testing or evaluation purposes only.

[Table A-1](#) lists the various combinations of operating system platforms on which you can install the SESA Directory, SESA DataStore, and SESA Manager to set up a minimum SESA installation of one SESA Manager connected to a SESA DataStore and SESA Directory. More information on the underlying middleware that is required for each type of installation is contained in [Table 3-2](#) through [Table 3-10](#).

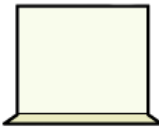
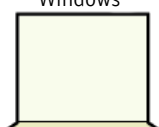

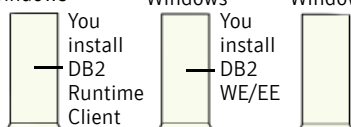
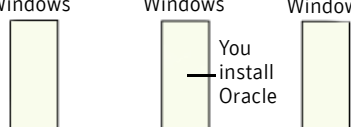
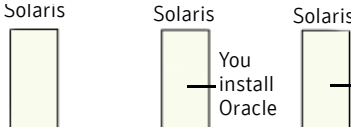
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**Note:** For the latest guidelines on deployment recommendations and supported scenarios, see the Symantec Knowledge Base.

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See “Types of installations” on page 67.

**Table A-1** Supported platform combinations for SESA installations

Item	Installation hardware configuration	SESA component distribution
1	Express installation: Windows only (for demonstration and testing purposes)	<p>Windows</p>  <p>IBM DB2 Personal Edition with 2 GB limit automatically installed with SESA components</p> <p>SESA Manager/DataStore/Directory</p>
2	All-in-one on Windows with an IBM DB2 Universal Database	<p>Windows</p>  <p>You must install an IBM DB2 Universal Database server before you install SESA</p> <p>SESA Manager/DataStore/Directory</p>
3	All-in-one on Windows with an Oracle 9i database	<p>Windows</p>  <p>You must install an Oracle database server before you install SESA</p> <p>SESA Manager/DataStore/Directory</p>
4	All Windows—fully distributed with an IBM DB2 Universal Database, which can be Workgroup Edition or Enterprise Edition (WE/EE)	<p>Windows      Windows      Windows</p>  <p>SESA Manager    SESA DataStore    SESA Directory</p>
5	All Windows—fully distributed with an Oracle 9i database	<p>Windows      Windows      Windows</p>  <p>SESA Manager    SESA DataStore    SESA Directory</p>
6	All Solaris—fully distributed with an Oracle 9i database	<p>Solaris      Solaris      Solaris</p>  <p>SESA Manager    SESA DataStore    SESA Directory</p>

**Table A-1** Supported platform combinations for SESA installations

Item	Installation hardware configuration	SESA component distribution
7	Mixed platform—fully distributed: SESA Directory on Solaris, SESA Manager and SESA DataStore on Windows with an IBM DB2 Universal Database, which can be Workgroup Edition or Enterprise Edition (WE/EE)	<div>Windows You install DB2 Runtime Client SESA Manager</div> <div>Windows You install DB2 WE/EE SESA DataStore</div> <div>Solaris You install DB2 EE (provided with SESA) SESA Directory</div>
8	Mixed platform—fully distributed: SESA Directory on Solaris, SESA Manager and SESA DataStore on Windows with an Oracle 9i database	<div>Windows SESA Manager</div> <div>Windows You install Oracle SESA DataStore</div> <div>Solaris You install DB2 EE (provided with SESA) SESA Directory</div>
9	Mixed platform—fully distributed: SESA DataStore on Solaris (Oracle 9i), and SESA Manager and SESA Directory on Windows	<div>Windows SESA Manager</div> <div>Solaris You install Oracle SESA DataStore</div> <div>Windows SESA Directory</div>
10	Mixed platform—fully distributed: SESA Manager on Solaris, SESA DataStore (IBM DB2 Universal Database) and SESA Directory on Windows. IBM DB2 can be the Workgroup Edition or Enterprise Edition (WE/EE).	<div>Solaris You install DB2 Runtime Client SESA Manager</div> <div>Windows You install DB2 WE/EE SESA DataStore</div> <div>Windows SESA Directory</div>
11	Mixed platform—fully distributed: SESA Manager on Solaris, SESA DataStore (Oracle 9i) and SESA Directory on Windows	<div>Solaris SESA Manager</div> <div>Windows You install Oracle SESA DataStore</div> <div>Windows SESA Directory</div>
12	Mixed platform—fully distributed: SESA Directory on Windows, SESA DataStore (Oracle 9i) and SESA Manager on Solaris	<div>Solaris SESA Manager</div> <div>Solaris You install Oracle SESA DataStore</div> <div>Windows SESA Directory</div>

**Table A-1** Supported platform combinations for SESA installations


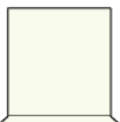
Item	Installation hardware configuration	SESA component distribution
13	Mixed platform—fully distributed: SESA DataStore on Windows (IBM DB2 Universal Database), SESA Manager and SESA Directory on Solaris. IBM DB2 can be the Workgroup Edition or Enterprise Edition (WE/EE).	
14	Mixed platform—fully distributed: SESA DataStore on Windows (Oracle 9i), SESA Manager and SESA Directory on Solaris	
15	Mixed platform—fully distributed: SESA Manager on Windows, SESA DataStore (Oracle 9i) and SESA Directory on Solaris	
16	All Windows: SESA DataStore (IBM DB2 Universal Database) and SESA Directory on one Windows computer connected to a distributed SESA Manager on Windows. IBM DB2 can be the Workgroup Edition or Enterprise Edition (WE/EE).	
17	All Windows: SESA DataStore (Oracle 9i) and SESA Directory on one Windows computer connected to a distributed SESA Manager on Windows	
18	Mixed platform—semi-distributed: SESA Manager on Solaris, SESA DataStore (IBM DB2 Universal Database) and SESA Manager on Windows. IBM DB2 can be the Workgroup Edition or Enterprise Edition (WE/EE).	

Table A-1 Supported platform combinations for SESA installations

Item	Installation hardware configuration	SESA component distribution
19	Mixed platform–semi-distributed: SESA Manager on Solaris with SESA DataStore (Oracle 9i) and SESA Manager on Windows	<div><div>Solaris</div><div>SESA Manager</div><div><div>Windows</div><div>You install Oracle</div><div>SESA DataStore/Directory</div></div></div>
20	All Windows: SESA DataStore (IBM DB2 Universal Database) and SESA Manager on one Windows computer connected to a distributed SESA Directory on Windows. IBM DB2 can be the Workgroup Edition or Enterprise Edition (WE/EE).	<div><div>Windows</div><div>You install DB2 WE/EE</div><div>SESA Manager/DataStore</div><div><div>Windows</div><div>SESA Directory</div></div></div>
21	All Windows: SESA DataStore (Oracle 9i) and SESA Manager on one Windows computer connected to a distributed SESA Directory on Windows	<div><div>Windows</div><div>You install Oracle</div><div>SESA Manager/DataStore</div><div><div>Windows</div><div>SESA Directory</div></div></div>
22	Mixed platform–semi-distributed: SESA Directory on Solaris with SESA DataStore (IBM DB2 Universal Database) and SESA Manager on Windows. IBM DB2 can be the Workgroup Edition or Enterprise Edition (WE/EE).	<div><div>Windows</div><div>You install DB2 WE/EE</div><div>SESA Manager/DataStore</div><div><div>Solaris</div><div>You install DB2 EE (provided with SESA)</div><div>SESA Directory</div></div></div>
23	Mixed platform–semi-distributed: SESA Directory on Solaris with SESA DataStore (Oracle 9i) and SESA Manager on Windows	<div><div>Windows</div><div>You install Oracle</div><div>SESA Manager/DataStore</div><div><div>Solaris</div><div>You install DB2 EE (provided with SESA)</div><div>SESA Directory</div></div></div>
24	All Windows–semi-distributed: SESA Manager and SESA Directory on one Windows computer with SESA DataStore (IBM DB2 Universal Database) on the other. IBM DB2 can be the Workgroup Edition or Enterprise Edition (WE/EE).	<div><div>Windows</div><div>You install DB2 WE/EE</div><div>SESA DataStore</div><div><div>Windows</div><div>SESA Manager/Directory</div></div></div>



**Table A-1** Supported platform combinations for SESA installations

Item	Installation hardware configuration	SESA component distribution
25	All Windows—semi-distributed: SESA Manager and SESA Directory on one Windows computer with SESA DataStore (Oracle 9i) on the other	<div> <div>Windows</div> <div>  <div>You install Oracle</div> </div> <div>SESA DataStore</div> </div> <div> <div>Windows</div> <div>  </div> <div>SESA Manager/Directory</div> </div>

## Minimum requirements to install all SESA components on a single Windows computer

If you are installing all of the SESA components on a single, Windows computer, for example, in an express installation, the computer must meet the following minimum system requirements:

- Windows 2000 Server/Advanced Server with Service Pack 3 or later and the latest Microsoft security patches or Windows 2003 Server Standard Edition/Enterprise Edition with the latest Microsoft security patches
- Intel Pentium-compatible 2 GHz or higher processor
- 256-color video adapter for installation
- Microsoft IIS services stopped prior to installation
- Physical access to a computer with no applications or components other than SESA and associated third-party software installed on it
- 1 GB of RAM minimum
- 4 GB of free hard disk space minimum plus extra space for event data
- TCP/IP communications enabled
- Transport Layer Security (TLS) version 1.0 or Secure Sockets Layer (SSL) version 3.0 or 3.1 enabled

# Minimum requirements for a SESA Directory computer

Table A-2 lists the minimum system requirements for a single Windows or Solaris computer to support a SESA 2.1 Directory installation.

**Table A-2** SESA Directory minimum system requirements

Installation platform	Requirements
Solaris and Windows computers	<ul style="list-style-type: none"> <li>Physical access to a computer with no applications or components other than SESA and associated third-party software installed on it</li> <li>1 GB of RAM minimum</li> <li>4 GB of free hard disk space minimum (of which 200 MB is required for the SESA Directory program and swap files)</li> <li>An additional 5 to 15 MB of hard disk space per managed security product instance (see your product system requirements for precise hard disk space requirements)</li> <li>TCP/IP communications enabled</li> <li>Transport Layer Security (TLS) version 1.0 or Secure Sockets Layer (SSL) version 3.0 or 3.1 enabled</li> </ul>
Solaris computers only	<ul style="list-style-type: none"> <li>Sun Solaris 8 (64-bit) with the latest recommended security patches from Sun, including patches 108921-12, 108940-24, 108434-03, and 108528-12 You can download this patch from <a href="http://sunsolve.sun.com">http://sunsolve.sun.com</a></li> <li>UltraSPARC II 500 MHz or higher processor</li> </ul>
Windows computers only	<ul style="list-style-type: none"> <li>Windows 2000 Server/Advanced Server with Service Pack 3 or later and the latest Microsoft security patches or Windows 2003 Server Standard Edition/Enterprise Edition with the latest Microsoft security patches</li> <li>Intel Pentium-compatible 2 GHz or higher processor</li> <li>256-color video adapter for installation</li> <li>Microsoft IIS services stopped prior to installation of the SESA Directory</li> </ul>

# Supported third-party software for the SESA Directory

Table A-3 lists the third-party software that is supported by SESA 2.1 Directory on Windows platforms. Except where indicated, the third-party software is provided on the SESA Foundation Pack CDs.

Table A-3 SESA Directory supported third-party software on Windows platforms

Third-party software	Description
Sun Java Runtime Environment (J2RE) 1.3.1_09	Required and included with the SESA Foundation Pack. J2RE can be installed on its own or as part of the Sun Java Development Kit (SDK).
IBM Tivoli Directory Server 5.2 with FixPak 2	Required with FixPak and included with the SESA 2.1 Foundation Packs.
IBM HTTP server, version v1.3.28.1	Required and included with the SESA Foundation Packs. Used for SESA Agent-to-SESa Manager communications. IBM HTTP Server 1.3.19.5 is also supported.
The following editions of IBM DB2 Universal Database 8.1 with FixPak 6a: <ul style="list-style-type: none"><li>■ Workgroup Edition</li><li>■ Enterprise Edition</li><li>■ Personal Edition</li></ul>	<p>Used for the SESA Directory (LDAP) database.</p> <p>IBM DB2 Universal Database Enterprise Server Edition 8.1 with FixPak 2 is included with both SESA Foundation Packs. It is intended for use with the SESA Directory only. You must apply FixPak 6a after installation.</p> <p>IBM DB2 Universal Database Workgroup Edition 8.1 with FixPak 6a is included on the SESA Foundation Pack 2.1 with SESA DataStore (IBM DB2 for Windows). It can be used to support the SESA Directory if it is installed on the same computer as the SESA DataStore.</p> <p>IBM DB2 Universal Database Personal Edition 8.1 with FixPak 6a is installed if the SESA Directory installation wizard does not detect an installed database. This edition is intended for non-production installations on a single Windows computer only.</p> <p>You can obtain any version 8.1 IBM DB2 Universal Database from IBM. For more information, contact Symantec Technical Support.</p>

Table A-4 lists the third-party software that is supported by SESA 2.1 Directory on Solaris platforms. Except where indicated, the third-party software is provided on the SESA Foundation Pack CDs.

**Table A-4** SESA Directory supported third-party software on Solaris platforms

Third-party software	Description
Sun Java Runtime Environment (J2RE) 1.3.1_09	Required and included with the SESA Foundation Pack. J2RE can be installed on its own or as part of the Java Software Development Kit (SDK).
IBM Tivoli Directory Server 5.2 with FixPak 2	Required and included with the SESA Foundation Pack. Underlying software for the SESA Directory on Solaris computers.
IBM Apache HTTP server, version 1.3.28.1	Required and included with the SESA Foundation Pack. Used for SESA Agent-to-SESA Manager communications.
IBM DB2 Enterprise Edition 8.1 with FixPak 6a	Required. IBM DB2 Universal Database Enterprise Edition 8.1 with FixPak 2 is included. Used for the SESA Directory (LDAP) database.

# Minimum requirements for the SESA DataStore computer

Table A-5 lists the minimum system requirements for a single Windows or Solaris computer to support a SESA DataStore installation.

Table A-5 SESA DataStore minimum system requirements

Installation platform	Requirements
Solaris and Windows computers	<ul style="list-style-type: none"><li>■ Physical access to a computer with no applications or components installed other than associated third-party software. On Windows computers, other SESA components can also be installed with the SESA DataStore.</li><li>■ Sufficient disk space for database event entries, depending on the number and type of managed security products. As a guide, to maintain one month of SESA DataStore security event data, 4 MB (for example, for an antivirus product) to 60 GB (for example, for a firewall product) of hard disk space should be allocated per managed security product instance. Disk space requirements may increase significantly depending on the number of events that are received by the SESA DataStore and the length of time that they are stored.</li><li>■ For high-load environments, post-installation tasks for the database server should be completed. This increases the recommended minimum system memory and hard disk requirements.</li><li>■ TCP/IP communications should be enabled.</li></ul>
Solaris computers only	<ul style="list-style-type: none"><li>■ Sun Solaris 8 (64-bit) with the latest cluster patch from Sun. You can download this patch from <a href="http://sunsolve.sun.com">http://sunsolve.sun.com</a>.</li><li>■ UltraSPARC II 500 MHz or higher processor.</li><li>■ 4 GB of memory minimum.</li><li>■ Existing installation of Oracle 9i.</li><li>■ 20 GB of free disk space minimum for SESA DataStore program files and swap space in addition to space for event entries.</li></ul>

**Table A-5** SESA DataStore minimum system requirements

Installation platform	Requirements
Windows computers only	<ul style="list-style-type: none"> <li>■ Windows 2000 Server/Advanced Server with Service Pack 3 and the latest Microsoft security patches or Windows 2003 Server Standard Edition/Enterprise Edition with the latest Microsoft security patches.</li> <li>■ 2 GB of RAM minimum.</li> <li>■ Intel Pentium-compatible 1 GHz or higher processor.</li> <li>■ Existing installation of a supported version of an Oracle or IBM DB2 Universal Database.</li> <li>■ 15 GB of free disk space minimum for SESA DataStore program files and swap space in addition to space for event entries.</li> <li>■ 256-color video adapter for installation.</li> </ul>

## Supported third-party software for the SESA DataStore

[Table A-6](#) lists the third-party software components that are required for a SESA 2.1 DataStore-only installation of SESA on a single Windows computer. Except where indicated, the third-party software is provided on the SESA Foundation Pack CDs.

**Table A-6** SESA DataStore supported third-party software on Windows platforms

Third-party software	Description
Sun Java Runtime Environment (J2RE) 1.3.1_09	Required and included with the SESA Foundation Pack. J2RE can be installed on its own or as part of the Java Software Development Kit (SDK).
Oracle 9i version 9.01	Not included in the SESA Foundation Pack. Used as the underlying software for the SESA DataStore.

**Table A-6**            SESA DataStore supported third-party software on Windows platforms

Third-party software	Description
The following editions of IBM DB2 Universal Database 8.1 with FixPak 6a: <ul style="list-style-type: none"><li>■ Workgroup Edition</li><li>■ Enterprise Edition</li><li>■ Personal Edition</li></ul>	<p>Used as the underlying software for the SESA DataStore in production environments.</p> <p>IBM DB2 Universal Database Enterprise Edition 8.1 with FixPak 6a is not included. (The version of IBM DB2 Enterprise Edition included on the SESA Foundation Packs is intended for use with the SESA Directory only.)</p> <p>IBM DB2 Universal Database Workgroup Edition 8.1 with FixPak 6a is included on the SESA Foundation Pack 2.1 with SESA DataStore (IBM DB2 for Windows).</p> <p>IBM DB2 Universal Database Personal Edition 8.1 with FixPak 6a is installed if the SESA DataStore installation wizard does not detect an installed database. This edition is intended for non-production installations on a single Windows computer only.</p> <p>You can obtain any version 8.1 IBM DB2 Universal Database from IBM. For more information, contact Symantec Technical Support.</p>

**Note:** For nonproduction and test environments, the SESA Foundation Pack also supports IBM DB2 Personal Edition 8.1 with FixPak 6a. However, the database has a 2-GB storage limit, and it only supports a single processor. The single-processor limitation requires you to install the SESA Manager on the same computer as IBM DB2 Personal Edition.



[Table A-7](#) lists the third-party software components that are required for a SESA 2.1 DataStore-only installation of SESA on a single Solaris computer. Except where indicated, the third-party software is provided on the SESA Foundation Pack CDs.

**Table A-7** SESA DataStore supported third-party software on Solaris platforms

Third-party software	Description
Sun Java Runtime Environment (J2RE) 1.3.1_09	Required and included with the SESA Foundation Pack. J2RE can be installed on its own or as part of the Java Software Development Kit (SDK).
Oracle 9i version 9.01 (Release 1, 32-bit version) to 9.2.0.1 (Release 2, 64-bit version)	Not included in the SESA Foundation Pack. Used as the underlying software for the SESA DataStore. Oracle 9i must reside on a dedicated Solaris computer.

## Minimum requirements for the SESA Manager computer

[Table A-8](#) lists the minimum system requirements for a single Windows or Solaris computer to support a SESA 2.1 Manager installation.

**Table A-8** SESA Manager minimum system requirements

Installation platform	Requirements
Solaris and Windows computers	<ul style="list-style-type: none"> <li>■ Transport Layer Security (TLS) version 1.0 enabled or Secure Sockets Layer (SSL) version 3.0 or 3.1 enabled</li> <li>■ TCP/IP communications enabled</li> </ul>
Solaris computers only	<ul style="list-style-type: none"> <li>■ Sun Solaris 8 (64-bit) with the latest cluster patch from Sun You can download this patch from <a href="http://sunsolve.sun.com">http://sunsolve.sun.com</a></li> <li>■ Physical access to a computer with no applications or components other than associated third-party software installed on it</li> <li>■ UltraSPARC II 500 MHz or higher processor</li> <li>■ 1 GB of memory minimum</li> <li>■ 4 GB of free disk space minimum for SESA Manager program files and swap space</li> </ul>

Table A-8                    SESA Manager minimum system requirements

Installation platform	Requirements
Windows computers only	<ul style="list-style-type: none"><li>■ Windows 2000 Server/Advanced Server with Service Pack 3 and the latest Microsoft security patches or Windows 2003 Server Standard Edition/Enterprise Edition with the latest Microsoft security patches</li><li>■ Physical access to a computer with no applications or components other than associated third-party software installed on it</li><li>■ Intel Pentium-compatible 2 GHz or higher processor</li><li>■ 1 GB of RAM minimum</li><li>■ 4 GB of free disk space minimum for SESA Manager program files and swap space</li><li>■ 256-color video adapter for installation</li></ul>

# Supported third-party software for the SESA Manager

Table A-9 lists the third-party software components that are required for a SESA 2.1 Manager-only installation of SESA on a single Windows computer. Except where indicated, the third-party software is provided on the SESA Foundation Pack CDs.

Table A-9                    SESA Manager supported third-party software on Windows platforms

Third-party software	Description
Java Software Development Kit (SDK)/Sun Java Runtime Environment (J2RE) 1.3.1_09	Required and included with the SESA Foundation Pack. The SDK is used with the Symantec management console to access the SESA Manager. The J2RE is used to install SESA components and for SESA processing. For SESA 1.1 Managers that have been migrated to SESA 2.1 Managers, SDK version 1.3.1_2 is supported.
IBM Apache HTTP Server version 1.3.28.1	Required and included with the SESA Foundation Pack. Used for SESA Agent-to-Manager communications.
Apache Tomcat 4.03 Servlet/JSP container	Required and included with the SESA Foundation Pack. Used for SESA Manager processing.

**Table A-9** SESA Manager supported third-party software on Windows platforms

Third-party software	Description
IBM DB2 Runtime Client 8.1 with FixPak 6a	<p>Not included with the SESA Foundation Pack. Used when the SESA Manager on Windows must connect remotely with an IBM DB2 Universal Database (the SESA DataStore on Windows).</p> <p>You can obtain an IBM DB2 Runtime Client from IBM. For more information, contact Symantec Technical Support.</p>

[Table A-10](#) lists the third-party software components that are required for a SESA 2.1 Manager-only installation of SESA on a single Solaris computer. Except where indicated, the third-party software is provided on the SESA Foundation Pack CDs.

**Table A-10** SESA Manager supported third-party software on Solaris platforms

Third-party software	Description
Java Software Development Kit (SDK)/Sun Java Runtime Environment (J2RE) 1.3.1_09	<p>Required and included with the SESA Foundation Pack. The SDK is used with the Symantec management console to access the SESA Manager. The J2RE is used to install SESA components and for SESA processing. For SESA 1.1 Managers that have been migrated to SESA 2.1 Managers, SDK version 1.3.1_2 is supported.</p>
IBM Apache HTTP Server version 1.3.28.1	<p>Required and included with the SESA Foundation Pack. Used for SESA Agent-to-Manager communications.</p>
Apache Tomcat 4.03 Servlet/JSP container	<p>Required and included with the SESA Foundation Pack. Used for SESA Manager processing.</p>
IBM DB2 Runtime client 8.1 with FixPak 6a	<p>Not included with the SESA Foundation Pack. Used when the SESA Manager on Windows or Solaris must connect remotely with an IBM DB2 Universal Database (the SESA DataStore on Windows).</p> <p>You can obtain an IBM DB2 Runtime Client from IBM. For more information, contact Symantec technical support.</p>

# Minimum requirements and supported third-party software for a remote Symantec management console

Table A-11 lists the minimum system requirements and supported third-party software for the Symantec management console.

**Table A-11** Symantec management console minimum system requirements and supported third-party software

Installation platform	Requirements
All supported platforms	<ul style="list-style-type: none"><li>■ Scripting and Java Virtual Machine (JVM) enabled in the Internet browser</li><li>■ 256-color video adapter (1024 x 768 minimum resolution)</li><li>■ TCP/IP communications enabled</li><li>■ Transport Layer Security (TLS) version 1.0 enabled or Secure Sockets Layer (SSL) version 3.0 or 3.1 enabled</li></ul>
Windows 98 or later	<ul style="list-style-type: none"><li>■ Microsoft Internet Explorer 5.5 or 6.0 with Service Pack 2 or Netscape Navigator 7.0x with the latest security patches applied</li><li>■ Sun Java Runtime Environment (J2RE) 1.3.1_02 or 1.3.1_09</li><li>■ Intel Pentium-compatible 400-MHz processor or higher</li><li>■ 64 MB of RAM minimum</li></ul>
Solaris 7 or later	<ul style="list-style-type: none"><li>■ Netscape Navigator 7.0x with the latest security patches applied</li><li>■ Sun Java Runtime Environment (J2RE) 1.4.2 (To run the Symantec management console on a Solaris 8 computer, you must first install and properly configure J2RE 1.4.2_02 and Netscape 7 on that computer)</li><li>■ Sun Solaris UltraSPARC II or higher processor</li><li>■ 128 MB of memory minimum</li></ul>
Red Hat Linux 6.2/7.0/7.1/7.2 or later	<ul style="list-style-type: none"><li>■ Netscape Navigator 7.0x with the latest security patches applied</li><li>■ Sun Java Runtime Environment (J2RE) 1.3.1_02 or 1.3.1_09</li><li>■ Intel Pentium-compatible 233-MHz processor or higher</li><li>■ 64 MB of RAM minimum</li></ul>

# Minimum requirements and supported third-party software for a SESA Agent

A SESA Agent that is running on a computer that does not also host the SESA Manager requires a Java Runtime Environment (J2RE). SESA 2.1 provides J2RE 1.3.1\_09. SESA 2.0 and 2.01 support version 1.2.2\_008 through 1.4.1\_02.

[Table A-12](#) lists the minimum system requirements and supported third-party software for a SESA Agent.

**Table A-12** SESA Agent minimum system requirements and supported third-party software

Installation platform	Requirements
All supported platforms	<ul style="list-style-type: none"> <li>■ 32 MB of memory in addition to the minimum system requirements for the operating system</li> <li>■ 40 MB of free disk space for SESA Agent program files</li> <li>■ TCP/IP communications enabled</li> <li>■ Any remaining hardware requirements imposed by the security product, Symantec Event Manager, Symantec Event Collector, Relay, or Bridge being managed by the SESA Agent</li> </ul> <p>For more information on system requirements, see the product documentation.</p>
Windows NT 4.0 with Service Pack 6a/2000 Server with Service Pack 3 or 4/2000 Advanced Server with Service Pack 3 or 4/2000 Professional with Service Pack 3 or 4/XP/2003 Server (.NET)	<ul style="list-style-type: none"> <li>■ Intel Pentium-compatible 133-MHz processor or higher</li> <li>■ Sun Java Runtime Environment (J2RE) 1.3.1_09 (included with the SESA Foundation Pack)</li> </ul> <p>Sun Java Runtime Environment (J2RE) 1.2.2_008 through 1.4.1_02 are supported but not included with the SESA Foundation Pack.</p>
Solaris 7/8/9 (32-bit or 64-bit)	<ul style="list-style-type: none"> <li>■ Sun Solaris UltraSPARC or higher processor</li> <li>■ Sun Java Runtime Environment (J2RE) 1.3.1_09 (included with the SESA Foundation Pack)</li> </ul> <p>Sun Java Runtime Environment (J2RE) 1.2.2_008 through 1.4.1_02 are supported but not included with the SESA Foundation Pack. The 32-bit and 64-bit versions of J2RE 1.4.1_02 are supported.</p>

**Table A-12** SESA Agent minimum system requirements and supported third-party software

Installation platform	Requirements
Red Hat Linux 7.2/7.3/Red Hat Advanced Server 3.0/Red Hat Enterprise Server 3.0/SuSE Enterprise Linux 9	<ul style="list-style-type: none"><li>■ Intel Pentium-compatible 133-MHz processor or higher</li><li>■ Sun Java Runtime Environment (J2RE) 1.3.1_09 (included with SESA Foundation Pack) Sun Java Runtime Environment (J2RE) 1.2.2_008 through 1.4.1_02 are supported but not included with the SESA Foundation Pack.</li></ul>

# IBM DB2 database memory usage specifications

This chapter includes the following topics:

- [All SESA components](#)
- [SESA Directory and SESA DataStore](#)
- [SESA DataStore and SESA Manager](#)
- [Stand-alone SESA DataStore](#)

## All SESA components

Use the recommendations in [Table B-1](#) when the SESA Directory, SESA DataStore, and SESA Manager reside on the same Windows computer on which IBM DB2 Universal Database is installed.

**Table B-1** SESA Directory, SESA DataStore, and SESA Manager all on one Windows computer

Computer memory (MB)	Recommended buffer pool size (MB)
512	80 (SESA default)
1,024 (1 GB)	80 (SESA default)
1,536 (1.5 GB)	80 (SESA default)
2,048 (2 GB)	256 (Bufferpool and SortHeap)
2,560 (2.5 GB)	512 (Bufferpool and SortHeap)

**Table B-1** SESA Directory, SESA DataStore, and SESA Manager all on one Windows computer

Computer memory (MB)	Recommended buffer pool size (MB)
3,072 (3 GB)	756 (Bufferpool and SortHeap)
3,584 (3.5 GB)	1,000 (Bufferpool and SortHeap) (/3 GB)
4,096 (4 GB)	1,500 (Bufferpool and 1,000 SortHeap) (/3 GB)

## SESA Directory and SESA DataStore

Use the recommendations in [Table B-2](#) when the SESA Directory and SESA DataStore reside on one Windows computer on which IBM DB2 Universal Database is installed.

**Table B-2** SESA Directory and SESA DataStore on one Windows computer

Computer memory (MB)	Recommended buffer pool size (MB)
512	80 (SESA default)
1,024 (1 GB)	80 (SESA default)
1,536 (1.5 GB)	80 (SESA default)
2,048 (2 GB)	256 (Bufferpool and SortHeap)
2,560 (2.5 GB)	512 (Bufferpool and SortHeap)
3,072 (3 GB)	756 (Bufferpool and SortHeap)
3,584 (3.5 GB)	1,000 (Bufferpool and SortHeap) (/3 GB)
4,096 (4 GB)	1,500 (Bufferpool and 1,000 SortHeap) (/3 GB)

## SESA DataStore and SESA Manager

Use the recommendations in [Table B-3](#) when the SESA DataStore and SESA Manager reside on one Windows computer on which IBM DB2 Universal Database is installed.

**Table B-3** SESA DataStore and SESA Manager on one Windows computer

Computer memory (MB)	Recommended buffer pool size (MB)
512	80 (SESA default)
1,024 (1 GB)	80 (SESA default)



**Table B-3** SESA DataStore and SESA Manager on one Windows computer

Computer memory (MB)	Recommended buffer pool size (MB)
1,536 (1.5 GB)	80 (SESA default)
2,048 (2 GB)	256 (Bufferpool and SortHeap)
2,560 (2.5 GB)	512 (Bufferpool and SortHeap)
3,072 (3 GB)	756 (Bufferpool and SortHeap)
3,584 (3.5 GB)	1,000 (Bufferpool and SortHeap) (/3 GB)
4,096 (4 GB)	1,500 (Bufferpool and 1,000 SortHeap) (/3 GB)

## Stand-alone SESA DataStore

Use the recommendations in [Table B-4](#) when the SESA DataStore resides on a Windows computer on which IBM DB2 Universal Database is installed.

**Table B-4** SESA DataStore on one Windows computer

Computer memory (MB)	Recommended buffer pool size (MB)
512	80 (SESA default)
1,024 (1 GB)	80 (SESA default)
1,536 (1.5 GB)	256 (Bufferpool and SortHeap)
2,048 (2 GB)	512 (Bufferpool and SortHeap)
2,560 (2.5 GB)	756 (Bufferpool and SortHeap)
3,072 (3 GB)	1,000 (Bufferpool and SortHeap) (/3 GB)
3,584 (3.5 GB)	1,500 (Bufferpool and 1,000 SortHeap) (/3 GB)
4,096 (4 GB)	1,500 (Bufferpool and 1,000 SortHeap) (/3 GB)



# SESA logs

This chapter includes the following topics:

- [Oracle database server logs](#)
- [IBM DB2 database server logs](#)
- [IBM Directory Server logs](#)
- [IBM HTTP Server logs](#)
- [Apache Tomcat Servlet logs](#)
- [JDBC error log](#)
- [SESA Agent logs](#)
- [SESA Manager logs](#)

# Oracle database server logs

Table C-1 lists logs that contain event information as a result of Oracle database server operations.

Table C-1 Oracle database server logs

Type	Default location	Description
Oracle alert log	/u02/app/oracle/admin/SESA/bdump/SESA*.trc	Logs events that are specific to particular Oracle background processes. Monitoring this log can help you keep informed of specific Oracle database server processes.
Oracle process coredump files	/u02/app/oracle/admin/SESA/cdump/core*	Log core files from failed Oracle processes. This log is generally only useful to Oracle technical support.
Oracle user process logs	/u02/app/oracle/admin/SESA/udump/SESA_ora*.trc	Log events that are specific to Oracle user processes, including SESA Manager connection events. You may find this log useful for troubleshooting any Oracle database server problems that you encounter.
Oracle online redo logs	/u02/oradata/SESA/redo01.log /u02/oradata/SESA/redo02.log	Queue database transactions that are not immediately processed.  You can change the size of a log to accommodate increased transaction activity.
Oracle archived redo logs	/u01/oradata/SESA/arch/*.arc	Log archived redo logs that contain prior transaction data. This log must be backed up along with data files for recovery purposes.  If necessary, you can enable redo log archival.  See <a href="#">“Creating one or more Oracle 9i databases for SESA on Solaris”</a> on page 119.

# IBM DB2 database server logs

[Table C-2](#) lists logs that contain event information as a result of IBM DB2 database server operations.

**Table C-2** IBM DB2 database server logs

Type	Default location	Description
IBM DB2 transaction logs	C:\DB2\NODE0000\SQL00001\SQLLOGDIR\<S0000000#.LOG>	Queue database transactions that are not immediately processed. You can change the size of a log to accommodate increased transaction activity.  For more information on increasing the Oracle transaction log size, see the <i>Symantec Enterprise Security Architecture Administrator's Guide</i> .
IBM DB2 installation log	C:\DB2LOG\db2inst.log	Logs IBM DB2 installation information.
IBM DB2 error/diagnostics log	C:\Program Files\SQLLIB\DB2\db2diag.log	Logs IBM DB2 error and diagnostics information.

# IBM Directory Server logs

[Table C-3](#) lists logs that contain event and other information as a result of IBM Directory Server operations.

**Table C-3** IBM Directory Server logs

Type	Default location	Description
IBM Tivoli Directory Server 5.2 transaction logs	C:\LDAPDB2\NODE0000\SQL00001\SQLLOGDIR\<S0000000#.LOG>  /export/home/ldapdb2/ldapdb2/NODE0000/SQL00001/SQLLOGDIR/<S0000000#.LOG>	Queue IBM Directory Server transactions that are not immediately processed. You can increase the size of a log to accommodate increased transaction activity.  <b>Note:</b> The directory may be different if you chose to install using a different instance name (examples: sesldap, db2admin, or ldapdbe).

Table C-3 IBM Directory Server logs

Type	Default location	Description
IBM DB2/Tivoli Directory Server 5.2 Install log	C:\Program Files\IBM\LDAP\ldapinst.log and ibmdir.log	Stores installation information for the IBM Tivoli Directory Server 5.2 installation program.
IBM DB2/Directory Server 5.2 setup log	C:\Program Files\IBM\LDAP\setup.log	Stores setup parameters for the IBM Tivoli Directory Server 5.2 installation program.
IBM Directory Server migration log	C:\Program Files\IBM\ldap\var\Migrate321.log	Logs migration data that results from moving from IBM Directory Server 4.1.1 to 5.2.
IBM Tivoli Directory Server 5.2 diagnostics logs	C:\Program Files\SQLLIB\LDAPDB2\db2diag.log	Log diagnostic information for IBM DB2-related errors.  <b>Note:</b> The directory may be different if you chose to install using a different instance name (examples: sesldap, db2admin, or ldapdbe).
IBM Tivoli Directory Server 5.2 Slapd config file error log	C:\Program Files\IBM\ldap\var\ibmslapd.conf	Log errors related to the Slapd configuration file.

# IBM HTTP Server logs

[Table C-4](#) lists logs that contain event and other information as a result of IBM HTTP Server operations.

**Table C-4** IBM HTTP Server logs

Type	Default location	Description
HTTP Server log	C:\Program Files\IBM HTTP Server\setup.log /var/Symantec/sesainst.log	Logs IBM HTTP Server installation information.
HTTP Server request log	C:\Program Files\IBM HTTP Server\logs\access.log /opt/IBMHTTPD/logs/access_log	Logs HTTP and HTTPS requests that have been made to the HTTP Server, including transactions between the SESA Agent and SESA Manager.
HTTP Server administration request log	C:\Program Files\IBM HTTP Server\logs\admin_access.log	Logs HTTP and HTTPS requests that have been made to the HTTP Server over the administration port (8008). Used only when the HTTP Administration Web site is accessed.
HTTP Server administration error log	C:\Program Files\IBM HTTP Server\logs\admin_error.log	Logs errors related to accessing the HTTP Server over the administration port.
HTTP Server error log	C:\Program Files\IBM HTTP Server\logs\error.log /opt/IBMHTTPD/logs/error_log	Logs errors related to accessing the HTTP Server.

# Apache Tomcat Servlet logs

Table C-5 lists logs that contain event and other information as a result of Apache Tomcat Servlet operations.

Table C-5 Apache Tomcat Servlet logs

Type	Default location	Description
Apache Tomcat logs	C:\Program Files\IBM HTTP Server\tomcat\logs\mod_jk.log C:\Program Files\IBM HTTP Server\tomcat\logs\stderr.log C:\Program Files\IBM HTTP Server\tomcat\logs\stdout.log C:\Program Files\IBM HTTP Server\tomcat\logs\apache_log.<date>.txt C:\Program Files\IBM HTTP Server\tomcat\logs\catalina_log.<date>.txt C:\Program Files\IBM HTTP Server\tomcat\logs\localhost_log.<date>.txt	Log information that the Apache Tomcat servlet container generates.
Apache Tomcat HTTP request log	C:\Program Files\IBM HTTP Server\tomcat\logs\localhost_access_log.<date>.txt	Logs requests to Apache Tomcat using IBM HTTP. Records all transactions between the SESA Agent and SESA Manager that are passed to Tomcat through the IBM HTTP Server.



# JDBC error log

Table C-6 lists the log that contains information as a result of Java database connectivity errors.

Table C-6 JDBC error log

Type	Default location	Description
JDBC error log	C:\Program Files\SQLLIB\DB2\jdbcerr.log	Logs errors that are related to JDBC driver transactions.

# SESA Agent logs

Table C-7 lists logs that contain event and other information as a result of SESA Agent operations.

Table C-7 SESA Agent logs

Type	Default location	Description
SESA Agent startup and shutdown log	C:\SESA\Agent\AgentStart.log	Records data that is generated from the startup and shutdown of the SESA AgentStart service.
SESA Agent error and actions log	C:\SESA\Agent\sesa-agent.log	Logs SESA Agent errors and actions.
SESA Agent uninstallation log	C:\SESA\Agent\uninst.log	Logs uninstallation information generated by the SESA Agent installer.

# SESA Manager logs

Table C-8 lists logs that contain event and other information as a result of SESA Manager servlet operations.

Table C-8                      SESA Manager logs

Type	Default location	Description
SESA Manager servlet logs	C:\SESA\<computer name>\Admin\logs\<random 16-character value>\Admin-guid.log  C:\SESA\<computer name>\Alert\logs\guid\Alert-guid.log  C:\SESA\<computer name>\Bootstrap\logs\<random 16-character value>\Bootstrap-guid.log  C:\SESA\<computer name>\command\logs\<random 16-character value>\command-guid.log  C:\SESA\<computer name>\Config\logs\<random 16-character value>\Config-guid.log  C:\SESA\<computer name>\Event\logs\guid\Event-<random 16-character value>.log  C:\SESA\<computer name>\Inventory\logs\<random 16-character value>\Inventory-guid.log  C:\SESA\<computer name>\State\logs\guid\State-<random 16-character value>.log	Correspond to specific SESA Manager servlets. These logs, created by SESA, contain servlet startup information, connection errors, Java exceptions, and other information that is related to servlet operation. These logs are most useful for troubleshooting SESA.  You can specify the location of the Manager servlet logs when you install SESA.  You can configure the logs for more robust logging.  For more information on configuring SESA Manager servlet logs, see the <i>Symantec Enterprise Security Architecture Administrator's Guide</i> .
SESA Manager log	C:\SESA\computer name\ses_manager\logs\guid\ses_manager-guid.log	Logs general SESA Manager data.

# Post-installation SESA files

This chapter includes the following topics:

- [Post-installation directories on Windows platforms](#)
- [Post-installation directories on Solaris platforms](#)
- [Post-installation directories on Oracle database servers](#)

## Post-installation directories on Windows platforms

On Windows platforms, SESA installs files to both its own and third-party software directories.

### SESA files on Windows platforms

[Table D-1](#) lists SESA files that should appear after a successful installation on Windows platforms.

**Table D-1** SESA files on Windows platforms

Directory or file name	Description
C:\SESA	Directory containing SESA product files
C:\SESA	Directory containing SESA log files
C:\Program Files\Common Files\Symantec Shared\SES\Ses_work.properties	Properties file containing common information for various logging servlets for the system

**Table D-1** SESA files on Windows platforms

Directory or file name	Description
C:\Program Files\Common Files\Symantec Shared\SES\AdapterInfo.cfg	File containing information on the network adapter
C:\Program Files\Common Files\Symantec Shared\SES\Ses_machine.dat	Encrypted file containing information on the directory IP address and password
C:\Program Files\Common Files\Symantec Shared\SES\Keydb	Directory containing the SSL certificate database

### Third-party software files on Windows platforms

[Table D-2](#) lists third-party software files that should appear after a successful installation on Windows platforms.

**Table D-2** Third-party software files on Windows platforms

Directory or file name	Description
C:\DB2	Directory created by DB2
C:\Program Files\SQLLIB	Directory created by DB2
C:\Program Files\IBM	Directory containing IBM GS Kit directory and IBM Directory Server
C:\Program Files\IBM Http Server	Directory containing IBM HTTP Server files
C:\Program Files\IBM Http Server\tomcat	Directory in which SESA installs Tomcat
C:\Documents and Settings\<Current User>\Local Settings\Temp\sesainst.log	Temporary directory used to store the installation log and installation files
C:\LDAPDB2	Folder created as part of IBM Directory Server

# Post-installation directories on Solaris platforms

On Solaris platforms, SESA installs files to both its own and third-party software directories.

## SESA files on Solaris platforms

[Table D-3](#) lists SESA files that should appear after a successful installation on Solaris platforms.

**Table D-3** SESA files on Solaris platforms

Directory or file name	Description
/opt/Symantec/SESA	SESA working directory
/opt/Symantec/SESA	Directory containing SESA log files
/etc/init.d/sesagentd	Script file that talks to the SESA Agent
/etc/symantec/ses	Common files
/var/Symantec	Installation log file

## Third-party software files on Solaris platforms

[Table D-4](#) lists third-party software files that should appear after a successful installation on Solaris platforms.

**Table D-4** Third-party software files on Solaris platforms

Directory or file name	Description
/opt/IBMHTTPD	IBM HTTP Server files
/opt/ibm	Directory containing IBM GS Kit directory and IBM Directory Server
/var/tmp/sesainst.log	Temporary directory used to store the installation log and installation files
/opt/IBMHTTPD/tomcat	Directory in which SESA installs Tomcat
/opt/IBMldapc	Directory created by IBM Directory Server installer
/opt/IBMldaps	Directory created by IBM Directory Server installer
/opt/IBMldapi	Directory created by IBM Directory Server installer
/opt/IBMldien	Directory created by IBM Directory Server installer

# Post-installation directories on Oracle database servers

On Oracle database servers, SESA installs files to both its own and third-party software directories.

## SESA files on Oracle database servers

[Table D-5](#) lists SESA files that should appear after a successful installation on Oracle database servers.

**Table D-5** SESA files on Oracle database servers

Directory or file name	Description
/opt/Symantec/SESA	SESA working directory
/opt/Symantec/SESA	Directory containing SESA log files
/etc/init.d/sesagentd	Script file that talks to the SESA Agent
/etc/symantec/ses	Common files
/var/Symantec	Installation log file

## Third-party software files on Oracle database servers

[Table D-6](#) lists third-party software files that should appear after a successful installation on Oracle database servers.

**Table D-6** Third-party software files on Oracle database servers

Directory or file name	Description
/usr/j2re1_3_1_09	Java files
/export/home/oracle	Home directory for Oracle user
/opt/ORCLfmap	Oracle file mapping
/var/opt/oracle	Oracle home configuration files
/u01/oradata	Database files
/u02/app/oracle	Oracle executable files and logs
/u02/oradata	Database files

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